

ground handling INTERNATIONAL

GROUND HANDLING INTERNATIONAL



FEBRUARY 2020

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Marina Bay Sands, Singapore
5-7 May 2020
- **9th GHI Safety Conference**
Tryp Barcelona Apolo, Barcelona
12-13 May 2020
- **6th Americas GHI Conference**
The Sheraton, Buenos Aires
23-25 June 2020
- **6th African GHI Conference**
Century City Conference Centre,
Cape Town 22-23 September 2020

TAKING STEPS

With the arrival of the New Year has come fresh evidence that the ramp remains a dangerous place in which to work.

Shortly before this issue went to press, news emerged of a fall from height involving a crew member of a Finnair A320 aircraft. The aircraft had arrived at Helsinki, the passengers had deplaned but when the cabin crew member opened the exit door, she fell 3.5 metres on to the tarmac, sustaining bone fractures in the process. The incident is currently under investigation by the relevant authorities and will surely centre on why the stairs had been removed from the aircraft.

But this incident is merely the latest in a list: six people fell from the top of a set of boarding stairs at Barnaul airport in Russia last year whilst emplaning a Ural Airlines flight to Moscow. In this instance the stairs collapsed, resulting in the hospitalisation of three passengers. And in 2018

Emirates Airlines suffered a fatality when a crew member fell from a parked aircraft at Entebbe airport while preparing the aircraft for boarding.

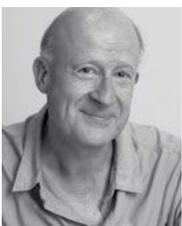
“... the ramp remains a dangerous place in which to work”

Three cases in three years; there are quite possibly more that have not been documented, since not all aviation authorities make public their incident data. Whatever the final number, the fact remains that such fundamental errors should not feature in the price of air travel. In an age that agonises over the niceties of gender appellation it seems ironical to this writer that a subject so important as basic safety

can be relegated to the back seat. Without a doubt, the woman who fell from the Finnair aircraft was extremely lucky: death is not an uncommon consequence in these cases.

All of which raises that age-old question: what is being done to address this situation? I wrote in the last issue of 2019 that the aviation world was looking towards a safer place but given the above litany of accidents, I shall have to reconsider those words. SOPs, training, manuals, specialised conferences and refresher courses all abound – but these alone are seemingly not enough to prevent mishap.

To err is human – but perhaps erring on the side of caution on the ramp should become standard practice. ■



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ALL CHANGE IN RUSSIA?

The Russian government has introduced new requirements for ground handling operators, writes Vladislav Vorotnikov.

The Russian Transport Ministry is seeking to sharply raise the level of penalties for delays in any luggage processing in airports by ground handling companies, Russian deputy Transport Minister Dmitry Zverev has said, speaking during a press conference late last year. The amendments to the Russia Air Code containing the new rules are currently passing the public hearings in the country.

The changes are believed to be connected with the mass delays in the baggage processing experienced at Sheremetyevo International airport in Moscow in the June and July of 2019. Russian airline Aeroflot was fined Rub290,000 (around US\$4,500) for those delays, affirmed Ekaterina Korotkova, spokesperson for the Moscow prosecution office, speaking during a press conference.

The delays affected thousands of passengers and some of them missed their connecting flights as a result; moreover, some flights were departing without any luggage on board, the prosecution office declared. On average, the delay period was up to four hours.

Aeroflot insisted that it was Sheremetyevo Handling who was to blame for the problems, and that five executives of that company were fired following those delays.

On June 1, Aeroflot passed its responsibility for luggage handing at Sheremetyevo to Sheremetyevo Handling, but it appears that the company had not made the necessary preparations to properly provide service; in particular, it had not hired enough baggage handlers, Korotkova said. Sheremetyevo Handling signed up to provide ground handling services to Aeroflot in Sheremetyevo airport between 2019 and 2022, with the value

of the contract reportedly put at Rub4.2bn (around US\$80m).

Russian news outlet Meduza reported, citing its own sources, that when taking over luggage handling operations at Sheremetyevo airport, executives of Sheremetyevo Handling cut the wages of the baggage handlers by 30-40%. A large number of baggage handlers immediately left the company, resulting in the overall number reducing to 1,400; this compares with the minimum number of 2,000 required for a practicable operation.

Following the delays, the company had to raise wages nearly fivefold to an unprecedented Rub200,000 (US\$3,200) per month in order to hire new staff fast enough, said Mikhail Vasilenko, General Director of the airport.

It remains to be seen to what extent the fines will be raised. Speaking earlier this year, Maksim Suraev, Chairman of the Transport Committee of State Duma, Lower Chamber of the Russian Parliament, called for raising fines tenfold to Rub250 (US\$4.2) per passenger delayed. The Russian Transport Ministry supported the idea of raising fines, but spoke against too sharp an increase, claiming that this would entail “the risks of rising prices for flight tickets in Russia.”

In the meantime, some reports indicate that the problems at Sheremetyevo might be far from being over. Russian newspaper *Life* reported that there were some delays in providing aircraft maintenance services by Sheremetyevo Handling, since several dozens of mechanics and engineers went on sick leave in November of 2019 to protest against low wages. That protest reportedly caused some delays to aircraft departures, although the information has never been officially confirmed by Sheremetyevo airport.

INVESTMENT IN NIGERIA

Handler Nahco recently announced that it had spent N2bn on the acquisition of ground handling equipment during the first phase of its investment plans. The company also said that it had now commenced the second phase of the exercise, which would entail the purchase of more equipment to improve its operations and service to its clients.

Amongst the equipment purchased were four sets of passenger steps from JBT, together with a hi-loader and a pair of JBT pushbacks. GOSH Products provided a ground power unit while four tractors were sourced from AGS. Dizengoff also supplied tractors while a pushback, beltloader and a toilet bowser were all supplied by GOSH.

The company subsequently posted a profit before tax of N973.1m for the third quarter ended September 30, 2019. The figure was N241.3m higher than the total for the same period last year, representing a 32.96% increase over 2018.

WANTED: A RENAISSANCE

Having failed to turn a profit since 2002, things are not looking too bright for Alitalia. The Italian government has said that it will prop up the airline for a further six months but after that time it will liquidate the carrier if state intervention proves unsuccessful.

Under government administration since 2017 and unattractive to outside investors, Alitalia continues to struggle. If the carrier shows no improvement by this summer, it will be sold off as one entity, to include both the ground handling and maintenance divisions.

CONTRACTS

■ **With effect from January**

15, LUG air cargo handling began serving Delta Air Lines in Frankfurt. The US carrier has been a LUG customer in Munich for over five years.

■ **AeroGround** Flughafen München, Munich airport's subsidiary responsible for aircraft and baggage handling, has been awarded one of the two licences to provide ground handling services at Hamburg airport. As a result, AeroGround can begin providing services there starting in August 2020. The licence has been granted for a seven year term.

■ **TAAG-Angola Airlines** has signed a partnership deal with Skyway Aviation Handling Company (SAHCO) for passenger and ramp handling, cargo services and warehousing, as well as other aviation-related activities.

■ **Nepal Airlines** has been preparing to operate flights to Narita International airport in Tokyo from January 2020, after it signed an agreement for ground handling and refuelling. The national flag carrier's plans to fly to the airport were hindered previously when it failed to organise a ground handling facility.

■ **Under a recently** signed agreement, Universal Weather and Aviation's Universal Aviation China is now providing ground handling at China Capital Jet Beijing, which operates the lone FBO at Beijing Capital airport. Universal has had a presence in China for the past two decades and provides private aviation ground handling at Shanghai Pudong International and Guangzhou Baiyun airports.

■ **Late last year**, Menzies Aviation secured three new contracts with Qatar Airways in Sweden and Denmark, marking a major service expansion.

New ICAO Manual on ground handling

Ground handling forms an integral part of the aviation industry. With the growth of air traffic and the proliferation of third party ground handling companies, ground operations at airports have become increasingly complex and potentially hazardous. Larger aircraft, more numerous ground support equipment and faster turnarounds all contribute to the challenge of improving operational safety.

ICAO has just published a new manual on ground handling (DOC 10121), which is available on the ICAO-NET website. The work is the culmination of several years of work by the ICAO Ground Handling Task Force, chaired by Andrew Badham, Policy Lead Aerodromes within Future Safety at the UK's Civil Aviation Authority.

The intent of this manual is to address the ground handling services that form a vital part of the aviation system and which contribute directly to flight and aerodrome safety. Its content provides guidance for all

stakeholders involved in the ground handling of aircraft, with particular reference to the safety of operations.

Bringing together ground handling operations and the principles of safety management to highlight safety improvements that can be made to the overall system, the manual has been developed with regulators in close co-operation with industry bodies IATA, ACI, ICCAIA and ASA.



ROSS ACQUISITION IN CALIFORNIA

Ross Aviation has completed its planned acquisition of the Signature Flight Support facility at Jacqueline Cochran airport in Thermal, California. This acquisition now gives Ross Aviation the largest ramp and hangar complex in the Coachella Valley and signals the organisation's growing presence in the region, as well as its appetite for expansion, system-wide.

"We see Thermal not only as a primary airport serving the Coachella Valley," said Brian Corbett, Chief Executive Officer of Ross Aviation, "but also as an excellent alternative to other facilities in the region, which are becoming increasingly congested. We anticipate hosting traffic from a variety of previously traditional destinations in the area, and now have the ramp space and hangar capacity – along with outstanding passenger and crew facilities – to accommodate them comfortably throughout the year."





SLOT BOOKING APP A PROFITABLE MOVE

Liège Airport Cargo Handling Services (LACHS) has successfully implemented Nallian's Slot Booking for Air Cargo, one of the collaborative applications on the LGG Cargo Cloud.

Within six months of going live the company realised a productivity increase of 33%. Other benefits have included smoother peaks and idle times, better usage of manpower, maximised capacity in terms of cargo specifics, an elimination of waiting times and better customer service.

Handling almost 200,000 tonnes of freight a year and 150 trucks a day, LACHS has seen its operations grow by 50% over the past two years. One of the key drivers for using Slot Booking at Liège airport was ensuring the highest level of customer service while dealing with this rapid growth. "Our main ambition was to improve the quality of our service, not to work faster. Using the Slot Booking application, we managed to do both," explained Hossaine El Bouayadi, IT Manager and Business Process Development at LACHS.

Using the Slot Booking app, LACHS makes slots available in the app in the light of their capacity, using a wide range of parameters, such as cargo type, type of location and day. The booker requests a slot and the system automatically matches availability and demand or proposes alternatives when needed. Drivers who arrive with a booked slot enjoy priority treatment, both when accessing the cargo zone and at the registration desk.

"The Slot Booking app helps us to better

channel pick-ups and deliveries," adds El Bouayadi. "We can make sure we have the right staff and equipment available when the drivers arrive, and prepare the goods proactively. It also enables us to better co-ordinate acceptance and warehouse operations, which makes life easier for both our staff and the drivers, and speeds up operations. Prior to using the Slot Booking app the handling of a truck, including paperwork and warehouse operations, would take on average three hours. Today, this is done in only two hours."

Aurélie Dethier, Deputy Customer Service & Operations Manager at Liège airport, comments: "We have implemented the LGG Cargo Cloud with the aim of empowering all actors at our airport to drive efficiency and transparency in their cross-company processes. We are excited about these results and look forward to shortly extending the benefits of the Slot Booking to the other ground handlers active at our airport."

Says Jean Verheyen, Nallian's CEO: "Liège airport was worldwide the fastest growing cargo airport in 2018 and we are thrilled to see our collaborative applications are helping them to drive this growth in their cargo operations. Enabling airports to drive efficiency and transparency by working as one is one of the reasons why we designed Nallian for Air Cargo. It is also why we continuously keep on extending our open app ecosystem, together with forward-looking players such as Liège airport and their cargo community."

APPOINTMENTS



■ **Richard Prince** has taken up the post of CEO at Aviapartner as Clive Sauvė-Hopkins has stepped down.

■ **Airport Terminal Services** recently promoted Brian Wood from VP Operations & Customer Service to Chief Operations Officer and Ingrid Braeuninger from VP Sales & Business Development to Chief Commercial Officer.

■ **Norwegian's** Board of Directors has appointed Jacob Schram as CEO of Norwegian. Schram took up the post on January 1; Geir Karlsen will continue as CFO and Deputy CEO.



IN BRIEF

The New Year has started with some good news: after several months of stand-off, the Indian government has now cleared the way for a solution to the handling impasse that occurred earlier in 2019, when US carriers were forbidden to self-handle in India. The escalation in tensions between the two countries was eased in early January when the Indian government backed down in its demands. Canada and Australia also have bi-lateral agreements with India but for the moment at least, it is the US which is seeing the change.



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WHEELS WITHIN WHEELS

Here Jonathan Stern, counsel at Schnader Harrison Segal & Lewis, highlights a recent legal case involving a PRM: that of *Armstrong v. Hawaiian Airlines*.

In this particular case, a passenger named Armstrong flew on Hawaiian Airlines from Kauai to Brisbane. Arrived in Brisbane, he was provided with wheelchair service to the baggage claim, but the Qantas employee who, pursuant to a pre-existing ground handling agreement, provided the wheelchair service, advised him that no assistance with his luggage was actually available. Unfortunately, Armstrong did not live up to his name for he subsequently injured his arm lifting one of his bags from the luggage carousel.

The question of liability

The Montreal Convention provides the following guidelines.

“The carrier is liable for damage sustained in case of death or bodily injury of a passenger upon condition only that the accident which caused the death or injury took place on board the aircraft or in the course of any of the operations of embarking or disembarking.”

The issue for the federal court on the airline’s motion for summary judgment was whether there had been such an “accident.” An “accident”, in legal



“In the Armstrong case, there was an unusual internal reaction to lifting a bag from the carousel”

parlance, has been noted as “an unexpected or unusual event or happening that is external to the passenger.” (See *Air France v. Saks*, 470 U.S. 392, 405, 1985). Thus, if, as in the *Saks* case, the injury results from normal operation and is attributable to

a passenger’s abnormal internal reaction thereto, this would equate to a non-accident event. However, recognising that injuries generally result from a chain of events, the courts require only that one link in the causal chain qualifies.

The carrier’s defence

Hawaiian argued that Armstrong’s arm injury resulted from his own internal reaction to normal and expected operations. Armstrong, on the other hand, maintained that it was the unusual and unexpected declination by Hawaiian’s ground handler to provide assistance with his luggage that had caused his injury. The Court recognised

that the event triggering the “accident” could be construed as inaction, as was the case in *Olympic Airways v. Husain*, 540 U.S. 644 (2004). There, a passenger gravely allergic to cigarette smoke was denied the opportunity to change seats in order to distance himself from the cigarette smoke. Such a declination could be the event that would constitute an “accident”, even though the injury also resulted from the passenger’s unusual internal reaction to exposure to cigarette smoke.

Causal or non-causal?

In the Armstrong case, there was an unusual internal reaction to lifting a bag from the carousel. Nonetheless, the Court had to decide whether another link in the causal chain was unusual or unexpected and external to the passenger. The Court held that the refusal to provide assistance upon request could so qualify. The question is whether that refusal was unusual or unexpected. The Court observed that the Ninth Circuit has held that “*the jury would consider industry standards, best practices, expert medical testimony, and any other relevant evidence*” to determine whether the challenged action was unexpected or unusual (2019 U.S. Dist. LEXIS 129971, at *22-23, citing *Baillie v. MedAire, Inc.*, 764 Fed. App’x 597, 598, 9th Cir. 2019). Finding sufficient evidence to raise a question of fact whether the declination of assistance was unusual or unexpected, the Court denied the carrier’s motion for summary judgment. **ghi**



Jonathan Stern is counsel in the Litigation Department and a member of the Aviation, Insurance Services and Appellate Groups. His practice focuses on aerospace-related litigation, including civil rights cases against airlines, insurance coverage and claims handling matters involving aerospace insurance, and personal injury and wrongful death litigation involving aviation products or aviation operations.

ExpendITure

SITA's latest sector report, *Air Transport IT Insights 2019*, makes for interesting reading, declares Alwyn Brice.

SITA is virtually alone in the realm of gathering and distributing sector data, particularly when it comes to areas that are less than mainstream. Carrier and airport IT spend is perhaps typical of these and the company's annual round-up, as usual, offers a window on what is happening behind the scenes.

It's an alarming thought, perhaps, but a couple of decades ago few within the aviation sector were overly excited by the progress being made by IT. In that short space of time though, technology has proved to be an indispensable asset and, as today's traveller is increasingly ordering his or her own journey, so its manifold possibilities have been eagerly embraced by airport, airline and handler alike. In consequence, when one reads of stagnating investment in terms of IT, then it can only raise an eyebrow – but such has been the reality in certain areas.

Airline IT budgets actually plateaued over the 2016-2017 period, at a 3.12% total IT spend as a percentage of revenue. But in 2018 (and as predicted by CIOs), the sector witnessed a significant rise, with total airline IT spend increasing substantially that year to reach a 4.84% fraction of airline revenue.

According to the report (in late 2019), airline operating spend on IT had now reached 2.89% of total revenue, compared to 1.90% in 2017. That looks quite promising – and all the indications are that this level of investment is predicted to remain largely stable, with the 2019 spend figure expected to be around 2.91%.

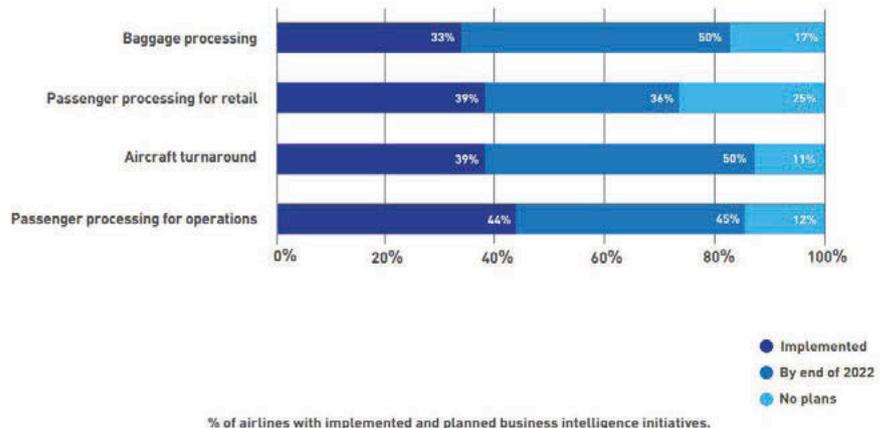
Capital expenditure also increased in 2018 to reach 1.95% in 2018: this was up from 1.24% in 2017. In fact, airlines were also predicting an increase in capital spend in 2019, with 2.31% a realistic figure.

The business

According to SITA, passenger processing for operations is currently the leading use of Business Intelligence, with 44% of airlines having implemented an initiative so far. Encouragingly, a further 45% plan to invest in this area by 2022.

Of rather more concern is the take-up of technology to meet IATA's Resolution 753, that which concerns the tracking of baggage across a journey. Airlines,

THE LEADING USE OF BUSINESS INTELLIGENCE FOR AIRLINES IS PASSENGER PROCESSING



in general, stated that they desired to scale up their bag tracking capability but the bald statistics show that 100% bag tracking remains the stuff of dreams – and indeed, a large proportion of respondents are struggling to cover even half of their networks.

Specifically, airline momentum around baggage tracking has shown little improvement since 2018, with just 14% of airlines able to track baggage across more than 75% of their route network (although encouragingly this figure is up from 6%). The vast majority of airlines in 2019 have capabilities for tracking bags below 50% of their route network; airlines report that they are optimistic for 2022, though, with 48% of carriers planning to have bag tracking capabilities for over 75% of their network routes by then.

The view from the airport

Moving over to the airport sector, it becomes quite clear that those in the survey are geared towards increasing numbers of passengers.

One major trend is the growth of investment in automating the passenger journey in order to provide a faster, more pleasant airport experience. Faced with the challenge of mushrooming traveller numbers, the vast majority of airports are leveraging Business Intelligence to improve passenger processing. Personalised communications via mobile phones is a definite trend and the mobile app has, of

course, already proved its worth.

Statistically, IT and telecommunications spend as a percentage of revenue continues to increase: it reached a new high (6.06%) in 2018, and was expected to rise slightly to 6.26% by the close of 2019.

Airports have a responsibility to keep ahead of the game; thus it is not surprising to learn that 64% of them reported that absolute IT and telecommunications investment increased in 2018, with only 5% remarking that it had decreased.

Most airports predict continued growth over the next two years, with 79% saying that they were planning for an increase in 2019 compared to 2018; and with 71% expecting an increase in 2020 compared to 2019.

Smoothing the passenger flow is also about effective queue management. To that end, wait-time monitoring is the main area to have witnessed a significant increase in implementation over the last year.

The implementation of wait-time monitoring has jumped from 31% of airports in 2017 to 42% in 2018. In 2019, the vast majority of airports reported having wait-time monitoring solutions in place.

Where the real money will be spent, though, is in the area of emerging technologies. SITA's findings indicate that some 85% of airports are investing in biometric identity management solutions with significant growth in the deployment of major programmes: these are set to rise

to 44% from 25% in 2018. Around 77% of airports will have interactive navigation investment plans by 2022, although this figure is the same as the previous year. Artificial intelligence investment is another important area of focus, with the deployment of major programmes reaching 29% (up from 9% in 2018).

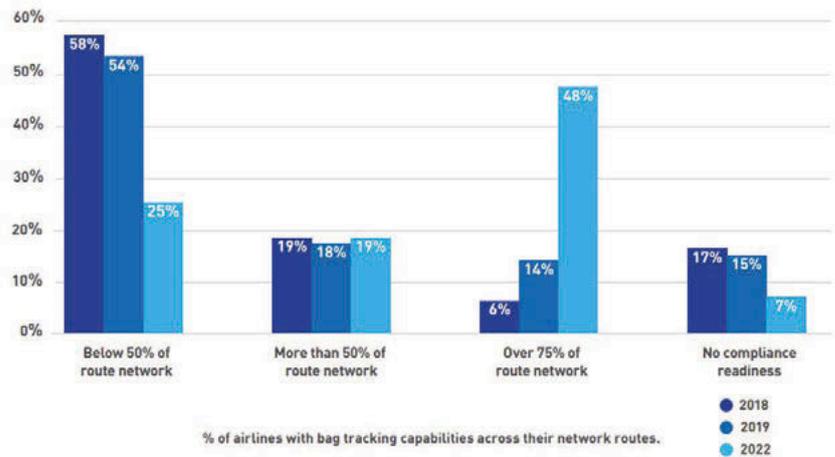
Finally, there has been further investment in Artificial Intelligence initiatives over the past year, with the main objective of improving the passenger experience.

The future scenario

According to respondents, in terms of airline IT expenditure in 2020, 49% of airlines predicted that their operating spend would increase, with 28% declaring that it would stay the same. Slightly worrying, perhaps, was the 23% who forecast a decrease in their IT investment. This seems a little hard to swallow, given that existing systems and applications will, at the very least, require maintenance and possible upgrades.

By 2022, the focus appears to be on digital transformation, with cloud services prominent (100% of respondents citing

AIRLINES STILL WANT TO SCALE UP THEIR BAG TRACKING CAPABILITIES



this area) and cybersecurity initiatives also strong, at 96%: these were deemed the most likely areas for future investment.

Investment in cloud services has increased since 2016 and is clearly a top priority on the agenda across most airlines: today, some 83% of airlines have major programmes in place for cloud activity whilst a further 16% are running a pilot scheme of some description.

Likewise, cybersecurity is a high priority, ranking second on the airline CIO agenda, with 86% having a major cybersecurity programme in place and a further 10% running a pilot.

As mentioned earlier, IT and telecoms have become indispensable to today's aviation sector; with rising passenger numbers and aircraft order books full, its benefits are not difficult to grasp. **ghi**

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Strategic focus

Claudio Torres, International Commercial Director – South America, expects the hub to bring measurable reliability to the carrier’s temperature-controlled operations. “Our perishable hub will help us to reduce the time perishables are exposed to non-controlled temperatures by up to 20%, thanks to its capacity to offer variable temperature ranges and its strategic location closer to the loading areas.”

Group CEO Andrés Bianchi says that the new cooler is indicative of the airline’s commitment to its customers. “We know Latin America is a major producer and exporter of perishables, and that its economic development largely depends on the international recognition of the quality of its products,” he asserts. “Faced with this reality, and as the leader in air transportation in the region, we took on the challenge of providing excellence in service and execution, and investing in leading-edge infrastructure to protect the freshness of the products carried, with the high standards our value proposal is well known for.”

Fresh approach

The hub opened as part of the launch of FRESH: an enhanced version of LATAM Cargo’s perishable care option that provides more robust temperature control across its network of cold storage facilities. With its FRESH product, LATAM Group will also offer an online storage temperature monitoring system, reduced exposure time on the tarmac and a predictive model that identifies the best measures to ensure freshness – and other benefits besides. *ghi*

FRUITFUL ENDEAVOUR

LATAM Cargo is upping its cold chain game across its network in Latin America, observes the Deputy Editor.

Latin America and the Caribbean is home to a vast quantity of fresh produce that is in high demand from the rest of the world. As such, perishable exports are numerous and voluminous, including flowers from Colombia, mangoes from Brazil and avocados from Mexico, which is said to supply around 45% of the international avocado market.

Suffice it to say, perishables exports represent major business for the region; by way of example, while airports handled a total of around 4m tonnes of air cargo

during 2018, each year, Colombia exports more than 250,000 tonnes of flowers alone, while Chile exports more than 500,000 tonnes of fresh fish.

A fertile market

For LATAM Cargo, a major player in the regional air cargo scene, fresh products account for 45% of all goods carried in a year. In Guarulhos in particular, where the Group’s main hub is stationed, 85% of all connecting cargo is perishable. Keen to capitalise on this fertile market and its strategic position, the carrier invested

US\$3.5m in a new temperature-controlled facility (which opened earlier this year) to accommodate its vast perishables business for products going to South America, North America and Europe.

The new facility occupies an area of 1,637 square metres, half of which is equipped with cooling chambers that offer refrigeration ranges of 0 to 2°C and 2 to 12°C for storage and re-palletising. The temperature of any chamber can also be increased up to 22°C.

With the new perishable hub, the LATAM Group has increased its perishable storage

GUARULHOS: A STRATEGIC HUB

LATAM Group serves more than 33 destinations in South America and more than 14 cities in North America, Europe, Africa and Asia from its Sao Paulo/Guarulhos hub. From here, more than half of the perishable cargo transported is done so in the holds of its passenger aircraft, making it an important location in the carrier’s objective to maximise use of its passenger fleet.

Perishables coming through Guarulhos come from seven points of origin, namely, Santiago, Lima, Bogotá, Buenos Aires, Asuncion, Montevideo and Santa Cruz de la Sierra; these are on their way to their final destinations in North America, Europe and Africa. Of all the salmon transported by LATAM Group, 19% connects at Guarulhos before heading on to the US and China, primarily. Meanwhile 14% of the asparagus produced in Peru comes through Guarulhos on its way to the UK and Germany, while 22% of Peruvian mangoes pass through the hub en route to Spain, France and beyond.



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Sofiya Maksymchuk (centre) stands with Aeromexico team as Safety & Training Officer

STAR QUALITY

Sofiya Maksymchuk achieved the Rising Star accolade in the *GHI* Pride of Ground Handling Awards 2019. Felicity Stredder spoke to her about the win.

At the 21st Annual *GHI* conference, Station Manager for US-based ground handler Airport Terminal Services, Sofiya Maksymchuk, received the award for Rising Star. Maksymchuk has indeed risen through the ranks at impressive speed since joining ATS six years ago, already holding the positions of Passenger Service Agent, Supervisor and Training Officer and, since the start of 2019, Station Manager at Toronto Pearson airport. *GHI* took a closer look at her winning credentials.

Notable accolades

Maksymchuk's colleagues provide a glowing review of her workplace ethic. As a keen learner and leader, her dedication to furthering her career has seen her go the extra mile. When a lack of first-hand experience threatened to hinder her effectiveness as a leader, Maksymchuk quickly became qualified to work on the ramp, loading bags alongside the workers in her charge, to better understand the daily challenges they faced. As well as working early mornings and late nights on the ramp without letting her management duties fall

by the wayside, Maksymchuk has upheld ATS' focus on employee satisfaction, taking the time to listen to team members' concerns as well as rewarding hard work in a variety of ways. Her efforts have led to a culture shift in the organisation, reports ATS, bringing a mutual respect and better understanding of her expectations by her team – which has ultimately led to a reduction in bag offloading times and a decrease in delays.

As well as bringing about improvement in general workplace attitude and productivity, one of the key reasons behind

“It’s a very dynamic industry with the ability to always try new things and challenge yourself to do better”

Sofiya Maksymchuk
Station Manager, ATS

Maksymchuk's nomination for the award was her proactive solution to ATS' biggest ongoing problem: that of staff turnover. Maintaining appropriate staffing levels and the cost of training new staff has been a growing issue for the handler, exacerbated by a glut of part-time roles. These were the product of multiple contracts for once-daily operations. Maksymchuk personally devised and implemented a programme for team members seeking full-time positions by offering them the opportunity to be cross-trained across multiple contracts.

After ascertaining a demand for the programme, Maksymchuk studied ATS' flight schedules to identify flights that would slot into the programme, without neglecting any contracts or leaving too much downtime; she then began scheduling employees for training across multiple airlines while maintaining regular operations, before devising a final schedule to bring all these elements together. Upon implementation, cross-trained team members were able to give up their second job.

Maksymchuk explains what inspired her to introduce cross training. “Offering cross ▶



training to employees benefits the company and the employee. Employees can work full time hours, should they choose to do so, and as a result this reduced turnover and headcount,” she says.

Thanks to Maksymchuk’s initiative, ATS had a workable solution to an endemic issue. For this, ATS and a panel of top-level industry judges agreed that she was deserving of the Rising Star accolade.

Rewarding efforts

ATS Regional Director, Eastern Canada, Pierre Herrbach, who works closely with Maksymchuk, made the initial internal nomination. “Sofiya winning the Rising Star Award makes me incredibly proud,” he says. “I am thrilled that her talent and work ethic have been recognised and rewarded by industry leaders around the world. She is very active in our operation, always looking for ways to improve, and a great motivator to our team members.”

Maksymchuk expresses her gratitude for the reward, too. “I am very humbled to win this award knowing how many great people work in this industry. After being in the business for only a short period of time, it proves that dedication and hard work pays off,” she remarks.

Her career in the industry was not by design, but by chance, she continues. “I have been with ATS for almost six years. When I first joined ATS back in 2014, it was just supposed to be a fun summer job. I never expected to make a career out of it. I went to school for something completely unrelated to the aviation industry and working for ATS was just going to be my way of killing time during the summer break, but here I am, six years and three positions later,” she enthuses. “Sometimes you need to try different things, to understand what you really want.”

Finding a passion

Despite her incidental route into the industry, Maksymchuk has found a real affinity with the job and all that the business of ground handling offers.

“My favourite part about my job is the fact that we technically do the same thing, but it is different every day. You never know what kind of challenge can be thrown at you,” she asserts. “This industry is very unpredictable.”

Commercial aviation naturally comprises a varied diet, allowing for a



Maksymchuk and her Copa Airlines team (above); ATS’ Ingrid Braeuningger accepts Sofiya’s award in Amsterdam (below)



“I am thrilled that her talent and work ethic have been recognised and rewarded by industry leaders around the world”

Pierre Herrbach
Regional Director, Eastern Canada, ATS

diverse range of responsibilities, she goes on to say. “I love joining my team, either on the passenger service side or on the ramp, and just working alongside them.”

Working in ground handling has brought about some truly rewarding experiences, too. “I have a lot of good memories from the past six years, but something that stands out the most would be all the travelling that I was able to do in my time as a Safety and Training Officer. I was able to learn from different stations and see what I could bring back and apply it in my own operation.”

As well as making all-important memories, Maksymchuk has learned valuable lessons from each of her positions within ATS. “When I started as an agent, I learned the importance of team work. As a passenger you do not fully understand how many people need to come together in order to get a single flight out. As a

supervisor, I learned responsibility. I was no longer just responsible for myself but was responsible for leading my entire team,” she states. “When I became a Safety & Training Officer, I learned patience. We have people that come from different backgrounds and learn differently: you need to be patient and find a different approach that will work with that agent. Lastly, as a Station Manager I have learned how important it is to delegate and follow up. You cannot do everything on your own,” she asserts.

Aviation advocate

When asked what alternative line of work she might have pursued were she not in this sector, Maksymchuk believes she would have followed her education down the obvious path. “I studied Business Management in University, with a focus on Accounting and Global Management, so I would probably be working in one of those fields,” she says.

To someone considering a career in ground handling, she offers only encouragement. “It’s a very dynamic industry with the ability to always try new things and challenge yourself to do better. If you are looking for a 9-5 job, this industry it not for you,” she warns. But this diversity is precisely what she so enjoys about the sector. “I believe ground handling is the future of the aviation industry. When working for a ground handling company, you learn how to simultaneously manage different airlines and their operation, which makes it more exciting and challenging.”

Her enthusiasm for the future of her career with ATS is in equal measure – and her ambitions clear. “I hope to continue growing within the industry and do my part in ensuring ATS is the best ground handling service partner in the business,” she concludes proudly. **ghi**

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Swissport launched its first cargo operation in Australia this year, at Melbourne airport



ASIA SPECIFIC

Felicity Stredder shines the spotlight on ground handling in the Asia Pacific region as we enter 2020.

That 2019 was a challenging year for the ground handling industry is a popular opinion. Between China and the US waging a tariff war on each other's economies and the ongoing slump in air cargo performance, operating conditions were far from optimal. Furthermore, IATA reported that the former dispute has contributed to a disappointing 4.5% overall growth in passenger traffic for Asia Pacific airlines in 2019 – a considerable decline from the growth of 2018. As 2020 gets underway, there is a glimpse of reprieve, however, as the region's handlers report.

Broadly speaking

Regional CEO Asia Pacific for dnata, Dirk Goovaerts, points to a broadly slowing economy in the region. "In 2019, several airlines adjusted their operations by suspending routes and decreasing frequencies on services. Having said that,

low cost airlines have expanded operations in the region." The latter, he suggests, is evidence of customer preferences changing.

Menzies Aviation's Stuart Key, SVP Sales & Commercial Operations - Oceania & South East Asia, attributes the tough conditions of 2019 predominantly to softening passenger numbers, which he says were down 3% on 2018, while cargo yields were down 5%; however, he also flags up IATA's forecast that Asia Pacific carriers will benefit from modest recovery in world trade and air cargo in 2020. "Asia remains the

manufacturing centre of the world and revenues from transporting many of those goods are a significant proportion of sales for many of the region's airlines," he asserts. Manufacturing, among other industries in the region, has taken a hit following the recent outbreak of the Chinese coronavirus, of course, which is also significantly affecting air cargo and passenger traffic in and out of the region – but Key is confident that Menzies' significant presence across the Asia Pacific region will enable it to adapt to market fluctuation.

Continuing with cargo, Stewart Sinclair, Managing Director – Thailand, Bangkok Flight Services, reports that BFS saw its export volumes drop in 2019, "down by around 15% compared to 2018, even though we retained all of our existing customers and added seven new customers during the year," he relates. BFS did experience growth on the ramp and passenger side, however, seeing around a 7.8% increase in flights. In a similarly positive vein, Swissport's Executive Vice President – Asia Pacific, Glenn Rutherford, currently observes a continuation of strong demand from Southeast Asia to Northeast Asia, which he says is offsetting reduced business to and from Hong Kong and the politically driven lower demand

between Korea and Japan. That said, the Australian and New Zealand domestic travel markets are experiencing generally softer demand and reduced flight volumes, he continues, which impacted handlers' performance last year.

Despite all the challenges, Raj Andrade, Chief Commercial Officer of Air India SATS, outlines the region's promise. "More than half of all new passengers in the next 20 years are expected to come from the APAC region, predominantly accounted for by India and China," he asserts.

Challenging times

Wilson Kwong, CEO of Hong Kong Air Cargo Terminals, highlights the obvious impact of the continuing trade war between the US and China on traffic between these countries. "The removal of some of these tariffs is welcomed, and we remain hopeful that tensions will ease throughout 2020. Meanwhile, there is evidence of some manufacturing shifting from China to countries such as Vietnam, in order to circumvent tariffs on Chinese imports. Some of this traffic will continue to route via Hong Kong, which is the major global gateway for Asia."

Key implicates various global issues, from uncertainty over Brexit, to the grounding of the B737 MAX and ongoing social unrest in Hong Kong as the most challenging factors in 2019. "The US – China trade war is inflicting the most damage to the global economy," he concurs, "but more locally, we are hopeful that the trade pressure between Japan and South Korea will recover soon, as this is impacting the Asia Pacific region in particular." Kwong advises that the aforementioned disturbances in Hong Kong did not have a major impact on Hactl's throughput. "The effect, mostly confined to belly cargo, was short-term mainly due to delays and reductions in flights. We were able to continue moving cargo without major delays," he relates. The overall air cargo downturn of 2019 did affect Hactl and its customers, however, Kwong admits. "That said, Hactl has successfully mitigated much of the impact through increasing e-commerce activity, targeting specialised cargo such as perishables and outsized."

Sinclair affirms that the cargo volume drop was the single biggest challenge of 2019 from BFS' perspective, along with airport infrastructure limitations, which have meant more remote operations. "We expect a fairly flat year for 2020," he notes of the freight market – although he adds that IATA has predicted a moderate recovery in cargo traffic of 2.2% this year.

For Rutherford, the depressed domestic passenger traffic in Australia and New Zealand was most problematic. "The cessation of Jetstar's turboprop operations in New Zealand impacted Swissport's business and resulted in the closure of operations in some regional locations; however, the international market remains strong. At a time where volumes are declining, further consolidation of ground handling is an opportunity for airlines to reduce cost," he enthuses. Japan's dry labour market is less cause for optimism, however, and he also observes increasing labour costs in Korea.

Goovaerts flags up the ongoing challenge of

BFS saw growth in its ramp ops at Suvarnabhumi last year, with a 7.8% increase in flights



attracting new talent to the industry, alongside foreign workforce quota restrictions and staff turnover. "We launched several employee engagement initiatives over the past year. We will continue to have a strong focus on attracting, developing and retaining talent," he asserts. On the other hand, Sinclair reports that BFS found staff recruitment and turnover to be manageable in 2019.



"We remain hopeful that tensions will ease throughout 2020"

Wilson Kwong
Hactl

Positive thinking

Continuing down this optimistic route, Andrade believes that the air cargo industry in India will see major boost. "The Government seeks to make India among the top five air freight markets by 2025, as well as creating air transport shipment hubs at all major airports over the next six years." Fierce competition among airlines and a progressive national civil aviation policy are driving growth in India's aviation sector, he says. The policy includes initiatives like the Regional Connectivity Scheme, alongside schemes for airport capacity augmentation, paperless travel and online passenger grievance redressal. To accommodate this predicted rising demand, investment in efficiency is essential, he adds. "The Indian ground handling industry is expected to move towards greater automation and increased usage of electric GSE across Indian airports."

Rutherford flags up the approaching Tokyo Summer Olympics as cause for positivity, particularly in counteracting the temporary reduction in capacity by many regional carriers in response to the political tension in Japan. "The market is experiencing an influx of carriers wanting to operate into Japanese airports or expand their frequencies, mainly from mainland China," he highlights. Interest in Japan as a tourist destination is growing considerably, he adds. "With Haneda airport opening more than 40 international slots, some carriers will shift their operations from Narita to Haneda. Slots will open for other carriers to operate into Narita in 2020, which will mean ground handling opportunities." Airport infrastructure availability and the dry labour market here may present a challenge in realising such opportunities, ▶



“We expect opportunities to come from the dynamic LCC market in South Korea. Vietnam also represents a region of promise”

Glenn Rutherford
Swissport

Rutherford mentions, but his positivity continues: “We expect opportunities to come from the dynamic LCC market in South Korea. Vietnam also represents a region of promise, with new customers from Vietnam and New Zealand commencing operations into Seoul’s Incheon International airport.” Flight frequencies to Vietnam are expected to continue increasing as the country’s popularity as a tourist destination grows, he adds. “We are handling two new growing airlines and their frequencies are increasing as a result.”

Modern advances

In terms of trends, all the handlers report continued technological advances and from the cargo side of the story, Kwong says that customers continue to prioritise e-commerce, pharma and perishables as key growth opportunities. Some of Hactl’s recent innovation efforts

from 2019 include the new Smart Cargo Locating and e-Loading projects. “The first of these speeds up the racking and retrieval of loose cargo in our giant facility and is the first stage in fully automating this process. The second has seen paper-based processes replaced with apps, enabling us to be more responsive to last-minute loading plan changes, and to use our resources more efficiently. We have broken our daily handling

record for freighters twice in recent weeks: we have set a new record of 106 aircraft handled in 24 hours,” he enthuses.

Technological advances are shaping the demands of the travel industry, Goovaerts asserts. “Exposure to the digital landscape and travel has shaped the expectations of consumers and millennials. Simply put, people are more discerning and expect more.” With comfort, value-for-money and a seamless airport experience increasingly a standard expectation of travellers, dnata is investing in its products and services accordingly, he continues. “The opening of our new marhaba airport lounge at Changi airport demonstrates our efforts.” He continues of dnata’s recent investments in technology: “Most recently, we’ve upgraded part of our GSE fleet and implemented the latest telematics to support better fleet management, utilisation and reporting.”

Swissport has also been investing in GSE, specifically in implementing telemetry technology for its GSE fleet in Japan, notes Rutherford. Additional GSE investment is planned this year,

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NEW LEGISLATION

ICAO 2021 is due to go live on July 1, which will require 100% screening of all air cargo: and a huge increase in activity in and around Hong Kong will coincide, says Kwong. A phased implementation will see the screening percentage gradually increased, he continues. "Phase 1, which requires 25% of cargo to be screened, came into effect on January 1 2020." Hactl is investing in more security screening equipment in anticipation of the legislation and Kwong is confident that they and the Hong Kong community will be ready to meet the new requirements by the deadline; "but it will still involve a great deal of hard work and preparation."

Key flags up changes in Australian legislation regarding enhanced cargo security, which have led Menzies to invest significantly in its cargo facilities. "Menzies has acquired a number of additional X-ray machines to maintain cargo security integrity due to the need for all outbound international air cargo, regardless of its destination, to be examined under the Enhanced Air Cargo Examination (EACE) programme before it is loaded on to the plane. This was introduced in March 2019 and the same security enhancements are expected to apply for domestic air cargo from mid-2020," Key explains.

including ramping up the electric quota of its global fleet with a view to meeting its 2025 target to become 50% electric. Rutherford is encouraged in particular by customers' adoption of electric vehicles (especially buses) in Australia and New Zealand. "And we are pleased to be at the forefront with vehicle development and operations." Furthermore, investment in its wearable technology initiative with SoterSpine continues, while last October saw the handler open a 10,000 square metre state-of-the-art off-airport cargo terminal in South Korea to expand its

operation, which has the capability to be expanded up to 30,000 square metres, Rutherford adds.

Areas of investment

The subject of investment generates much in the way of feedback. Sinclair relates BFS' efforts: "In

2019 we invested over €2m in our cargo material handling equipment, including a replacement X-ray machine, additional ETV storage positions and multiple mobile handling units. In 2020 we expect to invest more modestly, given the economic downturn," he notes. "For our ramp and passenger business we have continued to invest heavily in replacement and additional GSE to ensure a young average fleet age and to accommodate the growth in flights. In 2019 we invested over €4.5m and we expect a similar investment in 2020."

AISATS looked to transform its passenger services in 2019, relates Andrade, in particular the interaction of passengers with frontline staff. "At our Hyderabad operations, we developed a towable ramp in order to make the deplaning process more efficient and convenient for passengers, especially for passengers with reduced mobility at remote bays." Previously, getting PRMs on and off aircraft at a remote bay posed a major challenge when the Ambulift was



unavailable or unserviceable. “We intend to introduce and scale this at all our other locations. Our Bengaluru cargo operations introduced slip sheet handling for air freight shipments. This contemporary solution was launched to address material handling and storage challenges.” This year marks ten years of operations in India for AISATS and thus investment in innovation and digital solutions is expected to be considerable. “Growing our cargo business will be another key strategic business area for us,” Andrade notes.

Business growth

Despite negative trends seeming to dominate the industry in 2019, Key reports that Menzies has continued to increase its regional market share in the Asia Pacific region, with new businesses established in Canberra and Cairns. Its latest business partnership in Indonesia has continued to expand and this is expected to continue in 2020, while its Macau business remains stable. “We have seen an increase in turns since the opening of the bridge connecting Macau and Hong Kong, with several freighter operators preferring to land in Macau and truck cargo to and from Hong Kong,” Key reports.

According to Goovaerts, dnata’s new regional structure has enabled business optimisation. “We have managed to improve service delivery across all dnata APAC airports, which resulted in multiple contract wins across Australia, Singapore and the Philippines,” he says. Several new accolades have also been achieved, including ISO 9001 renewal in Singapore for ground, cargo and catering services, renewal of its IATA ISAGO registration in Singapore, Australia and the Philippines, as well as CEIV Pharma and GDP certification in Singapore, with the latter also acquired at Sydney and Melbourne.

Swissport has also enjoyed plentiful growth this year, relays Rutherford. “We launched our sixth ground handling station in Okinawa in September 2019 and invested heavily in new GSE. This trend is likely to continue in 2020 with a focus on employee programmes to ensure strong retention.” He adds that Swissport’s operation there has seen a 21% increase in the number of



“We have managed to improve service delivery across all dnata APAC airports”

Dirk Goovaerts
dnata

flights handled since 2018.

This January saw Swissport launch its first cargo operation in Australia, meanwhile, signing a lease for a brand-new air cargo facility at Melbourne airport – with other locations soon to be announced. “This is an exciting time for Swissport as we take the first formal step in our plans to bring a fresh approach and a more competitive offer to a market that has not seen a new entrant for more

than 20 years,” Rutherford enthuses. The handler will also open its first Aspire lounge for the Asia Pacific region at Perth airport in mid-2020. It also launched Swissport Executive Aviation at Auckland airport late last year.

Future musings

Looking ahead, Kwong is reserved in his expectations. “2020 will not be a record year for the industry, and few are likely to be over-worked this year; so we should all take this opportunity to consider how we can further integrate and streamline our industry so that it remains competitive,” he suggests. Cargo is expected to remain flat in 2020, notes Sinclair, but BFS anticipates that e-commerce will continue to grow. He adds that, with the current political issues in the Middle East, oil prices are likely to be a significant challenge in 2020, which could lead to a downturn in ramp and passenger traffic – a sentiment which Rutherford reiterates. Rutherford furthermore believes that APAC will continue to be the fastest growing aviation market. “I predict that the growth trend in Japan will continue in 2020, supported by the upcoming summer Olympics and the open sky treaty with China.” Goovaerts also points to an upswing in traffic. “Local and regional point-to-point traffic, mainly operated by narrow-body aircraft, will increase further. Service providers must provide tailored solutions,” he advises.

More broadly, Key anticipates further consolidation in the airlines space, with new alliances formed. “This will drive improved operational efficiency, with new trade lanes for freight and new direct sectors for passenger traffic,” he says positively. The low cost carrier market will continue to grow, he adds, predicting that legacy carriers may introduce a low cost brand to compete on certain routes. “The Asia Pacific ground handling arena could be in a similar situation, with partnerships formed between the global operators and some of the smaller local operators to gain further market share in Asia in particular,” he believes.

From politics to market fluctuation, the Asia Pacific region is struggling with the universal challenges of the aviation industry, in addition to its own unique challenges at present. But, while these are expected to continue, so too does investment and confidence in the future prosperity of the sector, as the handlers confirm. **ghi**

Dnata has renewed various accreditations at Changi airport, including IATA’s CEIV and ISAGO





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Hands-free operation

Back in November, history was made at Toulouse, writes the Editor.



Air France the beneficiary of Charlante and Navya's combined expertise

It may have been a day that saw Toulouse Blagnac airport perpetually shrouded in mist but that did not prevent the first live operation of a driverless baggage tractor on the ramp.

On the momentous occasion, Air France was the customer; Charlante Autonom, along with TCR and autonomous specialist Navya, provided the driverless vehicle; and Groupe 3S contributed the ground handling expertise. For all the players involved in this historic moment, it was a fulfilling experience: the result of several years' investment and trial resulted in a faultless demonstration before a large number of interested stakeholders.

The rise of autonomous

Three or four years back autonomous vehicles were still the stuff of science fiction. True, tests were underway on public roads to gauge the practicality (and safety) of the driverless car, but the airport sector was merely a spectator. All that would change, though, as the day in Toulouse proved. Companies like Navya saw the potential for autonomous transport, primarily in the field of the bus,

some time ago; the company wasn't alone in recognising that here was something that was admirably suited to a confined area of operation over a programmable route, such as that of the airport.

Charlante, known for its electric vehicle output, was a perfect choice and its T135 tractor type was deemed suitable for the transformation work. When *GHI* visited the French headquarters in early 2019, this

"We are very proud of this world-first operation"

Bastien Devaux,
Charlante Manutention

development was the talk of the workshop: almost a year on, the concept finally bore fruit on the ramp of Toulouse airport.

This particular airport is not without its historical importance, of course: chapters in its aviation history involve both Concorde and the A380, so it was fitting that this station should witness the first automated vehicle usage.

The key to the whole operation lies in the programming. Once a vehicle (Charlante is currently running three such autonomous tractors) has electronically absorbed the details of the route (or routes) that it is to take, all that's required is touchscreen input within the cab to set the vehicle in motion. Equipped with an array of sensors (Lidar, GPS, camera and an odometer), the tractor is thus equipped to navigate its route, stopping at pre-established barriers (such as pedestrian crossings), and giving way to anything that it detects within its field of movement that might conflict with its course. An inbuilt 3D map of the local environment ensures that the vehicle knows where it is at any given moment.

On the day in question, the driverless tractor appeared from the baggage hall area towing two empty trailers. It drove around a roundabout before reaching the stand, where it stopped according to its computerised input. The trailers were loaded, a Groupe 3S driver then turned the assemblage through 180 degrees before stopping the tractor and alighting. A command on the dashboard touchscreen then set the whole train in motion again, the tractor and load reprising the route it had previously taken. (There is also a base controller facility to operate such a vehicle: someone can start up the tractor, or tractors, without the necessity of getting into the cab). The whole exercise was drama-free although one imagines that a few hearts were in mouths as the tractor encountered another vehicle on its journey: however, all the research had obviously paid off, because the AT135 (the A signifying autonomous) politely gave way, only continuing once it had detected its path was clear. For those watching, it was the ultimate endorsement of this interesting technology.

Ongoing trials

The tests at Toulouse actually got underway on November 15 and the airport was due to carry on utilising the AT135 until the end of 2019; thereafter, at least at the time of writing, the next steps were unknown, although rumour had it

that other stations were in negotiations for trialling the tractor. For those not won over by the concept, there is plenty of evidence to suggest that this technology has much to commend it.

According to Bob Belither, Manager UK & Ireland, and one who has been involved in the project, the advantages are that because the vehicle is driven as it should be, and is not subject to varying driving styles, maintenance and longevity are improved, so that the tractor does not require as much mechanical attention as might otherwise be the case: yearly maintenance instead of six-monthly periods was suggested as practicable.

The technology is also foolproof: and because of this, there is a distinct advantage in terms of safety on the ramp. This tractor is designed to stop and start near the aircraft, with the final leg, if required, being executed by the driver. There is also the matter of staffing: tests have shown that personnel can be reduced by anything up to two-thirds when operating a driverless tractor. Labour costs, as most readers will know, is an



En route: a slightly unnerving sight for some spectators at Toulouse, the driverless baggage tractor

ongoing headache, so this technology presents an interesting alternative to an old problem.

Summing up

At Air France, the driverless vehicle concept is just one of several initiatives with which the carrier is involved. Vincent Euzeby, Head of IT & Tech Innovation at the carrier, was enthusiastic: “By

facilitating the use of an autonomous baggage tractor and perfectly integrating it into its operational processes, Air France’s ambition is to further optimise its operational performance and improve its customers’ travel experience. This test is the first step to a more widespread roll-out of autonomous vehicles at our airports.”

For Philippe Crébassa, Chairman of the Executive Board of Toulouse Blagnac airport, it was a special moment. “This test is a concrete step to designing the smart airport, more innovative, connected and more efficient for our customers. It was only natural that this world first took place at Toulouse airport, the pioneer city of aviation.”

The final word goes to Charlatte’s CEO, Bastien Devaux: “We are very proud of this world-first operation highlighting in real conditions the added value of our AT135 autonomous tractor, combining the expertise of Charlatte Manutention and Navya. The roll-out on a larger scale of autonomous vehicles should contribute to easing increasingly dense logistics flows.” **ghi**

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ON THE FRONTLINE

Martin Dean, Senior Manager, DuPont Sustainable Solutions, looks at developing critical leadership competencies.

Think about the best boss or teacher you ever had. What was it they did that made you remember them? If we took five minutes, we could all easily describe what it takes to be a great leader but, if it's that easy, how come everyone isn't a great leader? Imagine the competitive advantage your organisation would have if you surrounded yourself not just with great leaders but also with excellent safety leaders.

In ground handling, it's commonplace to promote people into a leadership position largely based on their technical knowledge or length of service rather than their leadership skills. Furthermore, once they are in a leadership position, we say "go on then, go lead" without supporting

them or providing clarity on what a great leader looks like in the organisation. We mostly learn how to lead by how we have been led ourselves. If my supervisor was a shouter, I shout louder (also known as Management by Volume).

The right skills

If people are not equipped with the right skills that they need to fill leadership positions, how can organisations avoid the so-called Peter Principle? "In hierarchy, every employee will rise to his level of incompetence."

Techniques to avoid that pitfall begin with building leadership competencies into the selection/promotion process. So how does one decide which competencies are

"Ultimately, we follow the people we have trust in"

Martin Dean,
DuPont Sustainable Solutions



critical? Great leaders bring a whole range of capabilities to their role. They inspire, engage and motivate but they also keep an eye on the main objective and track how close they are to reaching it. They constantly evolve and adapt to changing circumstances and anticipate what needs doing. Ultimately, we follow the people we have trust in, who inspire us and who lead by example.

Working on building and enhancing leaders' skills with companies around the world, we have come to realise what makes for effective leadership in Health & Safety is applicable to all other fields as well. In an ideal world, leaders develop the full range of competencies set out in Figure 1.

Deciding what skills are really needed

But it's a big wish list and likely to overwhelm people, especially if newly promoted into a leadership position. It is better to take a step back and consider what it is you want to achieve. A helpful approach is to define what front line leaders in your organisation need to do and how they should do it. What skills will be critical in their new role? The diagram (left) illustrates what this could look like. Here, the organisation has decided initially to focus on developing the new leader's capacity to engage people, to create a culture of openness and support, the ability to provide focus and reinforce rules, as well as the skill to observe what is actually going on. *ghi*



Figure 1: The DuPont Health & Safety Leadership Competencies Model

Footnote:

To learn more about training, coaching and other ways to develop leadership skills, visit www.consultdss.com



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State-of-the-art: a sneak preview of Trepel's latest electric loader

FULLY LOADED

It has been several years since *GHI* visited the Trepel manufacturing facility. The Editor brings an update from Germany.

It might be interesting to commence this update with a simple statistic: some 20 years back, Trepel's hi-lift output totalled around 40 units. Today, that figure has hit 500.

Whilst this is a striking example of how a company can flourish over a period a time, it's also a gauge of how busy the aviation sector in general (and that of cargo in particular) has been during that same period. As in the past, virtually all Trepel's work is done in house, with only a tiny percentage of items bought in to complete a build. The premises have, needless to say, expanded during the last two decades, and any visitor cannot fail to notice the large crane outside that loads the finished products on to waiting transport. The Tauberbischofsheim site sees all the company's hi-lifts manufactured although it also has facilities for the final construction of the Challenger 430, 550 and 700 models; the 150 and 280 tractors are manufactured at another factory, some 40 kilometres distant. Trepel also has offices in the US and Hong Kong for parts and servicing.

Around the factory

Any tour at Trepel starts with the chassis: in the main, it's constructed on site although Trepel can, on occasion, buy in this article: circumstances such as a heavy order book would necessitate this action. Plasma cutting machinery and shot blasting machinery are early sightings on the tour, as the raw material is shaped and finished prior to the assembly process. A staff of 400 occupies the company headquarters today and in a typical week, several shifts are entertained, with the working week commencing on the Sunday evening.

Key product at the site is that of the 7 tonne loader, although its smaller and bigger siblings (Trepel manufactures all the way up to a 35 tonne example) are also produced here. There are two welding stations and indeed a welding robot was working at the time of the visit. State-of-the-art, it makes light (and skilful) work of a job that would have traditionally been done by a practised hand. Usefully, when a chassis is laid out, it can be rotated about its axis to ease the welder's access – a

helpful function indeed.

An air of quality is certainly apparent within the factory, as the various elements come together in the process that will see them work harmoniously in the finished loader. In fact, according to Veit Janik, the company's Manager - Research and Development, anything up to 15 years' operation is to be expected from a smaller loader whilst the heavier duty versions should see 20 or more years' service on the ramp. Of course, lifespan depends upon usage and maintenance and whilst Trepel does not get involved in refurbishment programmes, it does offer spare parts and advice for anyone utilising one of its loaders.

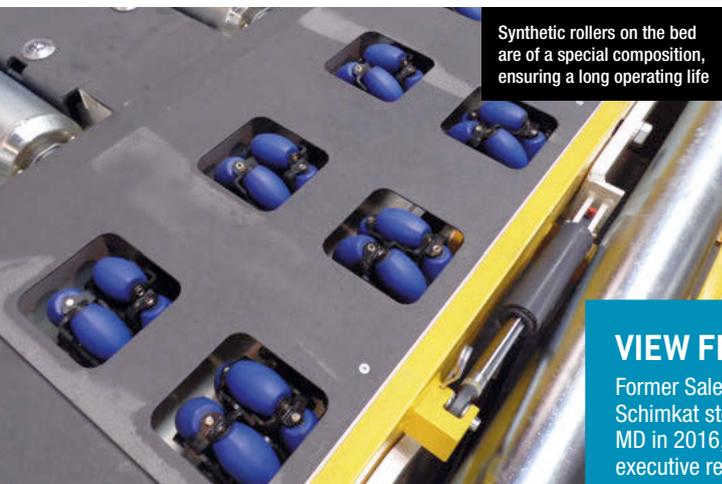
Once the paint booth has finished with the parts, it's the time to marry up the chassis with the scissors and bridge. Here, a precise fit is everything; unless the sections fit perfectly, then it's a case of going back down the line to re-engineer where necessary. As for the loader's electrical system, that is preassembled in a separate area, and again largely done in house. ▶



It all begins with the chassis, which is usually constructed in house



Whilst at Trepel there is much automation evident, manual skills are still necessary



Synthetic rollers on the bed are of a special composition, ensuring a long operating life



The Tauberbischofsheim factory is also home to some of Trepel's growing tug range

VIEW FROM THE TOP

Former Sales Director Carsten Schimkat stepped into the role of MD in 2016, when the existing chief executive retired. As he recalls, it was a propitious moment in the company's history, for sales were buoyant and growth readily apparent. "There were some downswings," he admits, "but these were short-lived. Electrification of the range was something that I have pushed forward, both for tractors and loaders." His latest contribution to Trepel's fortunes takes the form of a towbarless tractor: no big surprise, this, perhaps, given his past experience in that particular market sector. Schimkat has also been responsible for updating and introducing new IT solutions at the factory.

A closer look at the chassis reveals the dark blue, specially shaped rollers that facilitate the movement of the ULD. Janik reveals that the material is a type of plastic that is commonly used in protecting crane cabling. Its suitability in the loader has been proven over the years, needless to say.

Deutz remains the favoured motive power provider for the company's loaders, with the diesel engine still greatly in demand, since it is responsible for both the driving and the lifting functions.

In line with growing concerns over safety on the ramp, any Trepel hi-lift can be kitted out with the company's ACAS sensor system; today, something over 60% of the output have this aid fitted. Standardisation, in line with IATA's desired requirements, is important to the company, especially since here is GSE that sees operators working above three metres in height, which necessitates special requirements.

Other options

In these environmentally conscious times, it's good to note that the company is not solely focused on the production of

diesel-powered hi-lifts, for electric is also available. Nearing final production at the factory at the time of the visit was the first 14 tonne example that was destined for the Chinese market. It has taken Trepel some months to design this newcomer and Janik states that in terms of performance, it is on a par with its diesel-powered brother. When put on the ramp, it should be able to accommodate the maindeck loading and unloading operations of a pair of B747 aircraft on a single charge. Janik adds that it is not unusual for his customers to

actually supply their own battery when specifying electric options: that way, the construction process takes into account the battery size and shape, making for a more satisfactorily engineered end product. Battery power doesn't tend to extend to the largest hi-lifts, however, for the currently available battery capacity simply isn't high enough to cope.

To end on a completely different note, there is great anticipation at Trepel, as work on the company's first towbarless tractor nears completion: according to Schimkat, this will be rolled out in early 2020. The TLTV Charger 380 will be capable of towing a range of aircraft, from the Embraer 170 to the Airbus A340-600. Two engine sizes will be offered (309 kW or 231 kW) at Stage 5 compliance, although Stage 3 options will also be available for some regions; furthermore, electric and hybrid versions are also on the cards. Being able to pull 13 tonnes gives it plenty of versatility and the company sees this new tractor as ideal for intergate and fast maintenance towing, in addition to pushback duties.

So, is there room for another towbarless tractor in the marketplace?

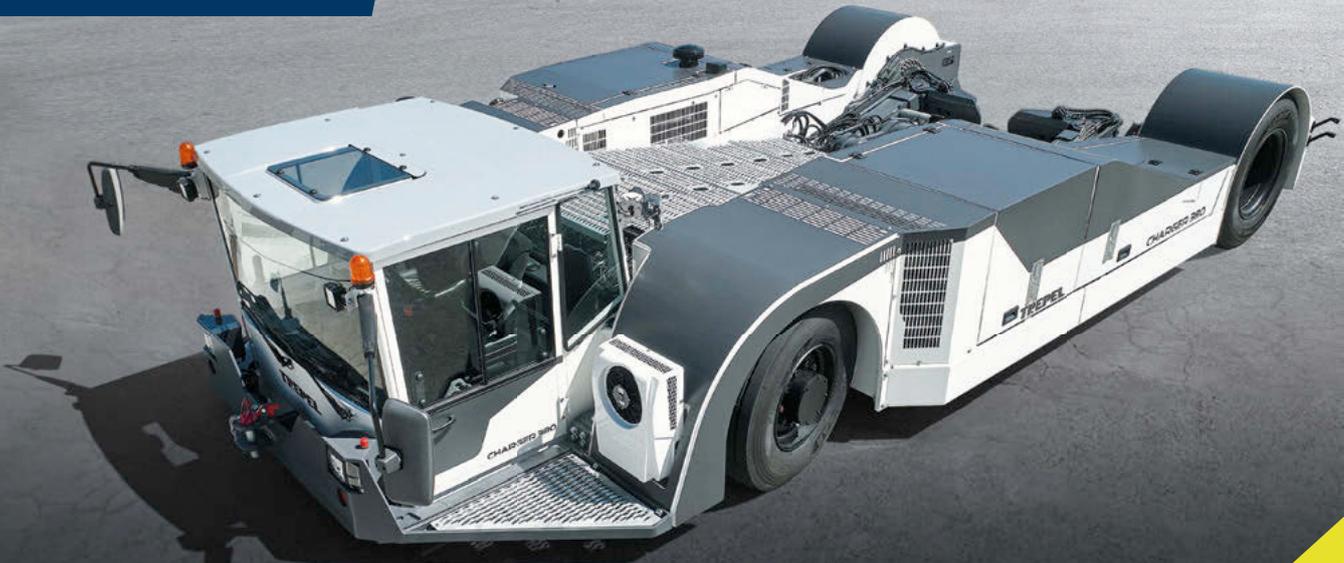
Trepel clearly believes so... **ghi**

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Safely on board

At Amsterdam's Schiphol airport, some 450,000 passengers with reduced mobility ask for help every year to get from A to B. Sensors, though, are making a difference, notes the Editor.

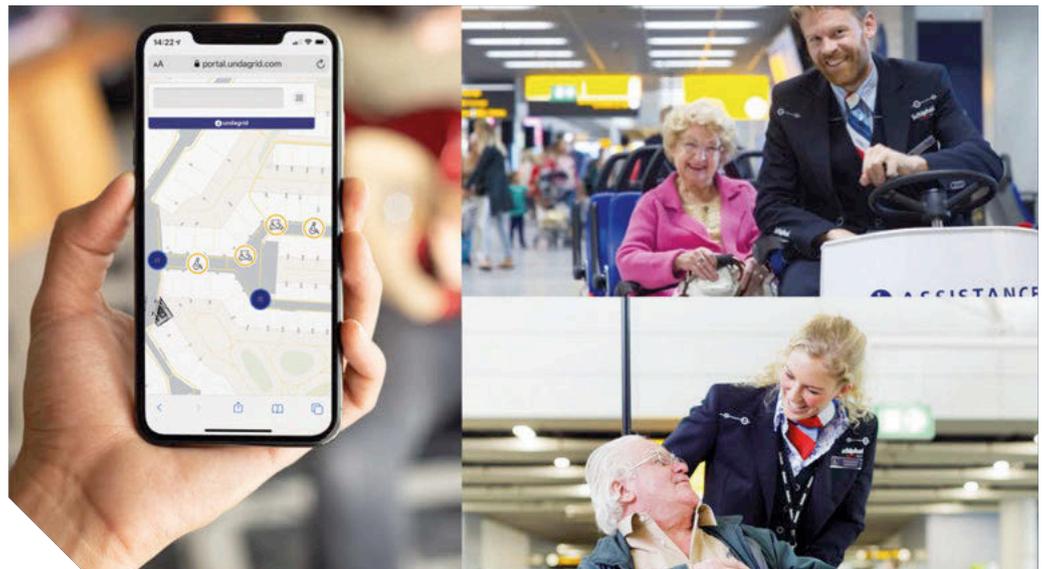
Today, walking distances at airports are often longer than expected. Even if a passenger has good mobility, it can still be a challenge to get to a gate on time. And passengers with reduced mobility experience extra time pressure because they have to board first. There is a practical reason for this: people in wheelchairs are brought on board with a lift and then lifted manually into their aircraft seat.

The above PRM statistic equates to around 1,200 requests for help every day but thanks to Undagrid's IoT PRM Solution, the passenger, assistant and wheelchair are able to come together much more quickly.

The last mile

"Is a passenger late? Then he or she can no longer board. The tight flight schedules do not allow you to wait," states Hans Koelstra. He is Director of Integral Safety at Axxicom Airport Caddy, which is responsible for the last mile of passengers with reduced mobility at various airports. If they indicate at least 48 hours in advance that they need a wheelchair or caddy and an assistant, Axxicom Airport Caddy will ensure that the materials and an employee are ready at the agreed time.

So much for the theory. In daily practice, things often go completely differently. For example, 40% of the passengers requiring PRM assistance arrive ad hoc. Axxicom Airport Caddy must then release an employee spontaneously, who must then immediately find



an available wheelchair or caddy. This often results in a frustratingly long search. In the meantime, the clock is ticking. Amazingly, a large proportion of PRMs only report upon arrival at the airport. "The number of passengers requiring assistance has steadily grown over the years and is expected to continue to grow over the next few. Adding extra staff or equipment will not always be possible," emphasises Koelstra. "That is a challenge for our employees, especially since they do not know where available wheelchairs and caddies are located. Similarly, the location and status of the ambulifts and how to optimise our processes."

Co-operation with Undagrid

The situation at Schiphol has thus had to change and thanks to IoT, the future will be different. To overcome the challenge, Facicom (the group to which Axxicom Airport Caddy belongs) and Vodafone

Global have collaborated with Undagrid, a key player in IoT technology within the aviation industry. Undagrid is active at various major airports around the globe and this company provides apron solutions for ground support equipment, inflight solutions for connected catering and terminal solutions for facility management, such as waste bins and luggage trolleys. All these solutions are focused on IoT and the delivery of actionable insights based on sensor information for these nomadic assets.

Summing up, Koelstra finds it a perfect match. "An airport is a complex environment. To begin with, we have to deal with many long piers, which are also far apart, and a jumble of shops and restaurants. And then we have to try to find a wheelchair in such an environment. There are also challenges at the technical level. For example, at an airport you not only have to deal with

many different signals, but also with the steel structures of the building, lots of people and changing environments. Undagrid has experience with terminal solutions. That makes a difference. By the end of this year Undagrid will already provide hundreds of their new NBIIoT smart Nestor sensors. We use these to take our services to a real next level. It helps us enormously if we know exactly where all our equipment is," he continues. "We are also looking at the next step, together with Undagrid. How do we get the passenger, the companion and the wheelchair together even more quickly? It would be nice if we could develop an app that allows passengers with reduced mobility to be matched directly to available assistants and the nearest free wheelchair after registration."

The gauntlet has been picked up; further news on this initiative will follow. **ghi**

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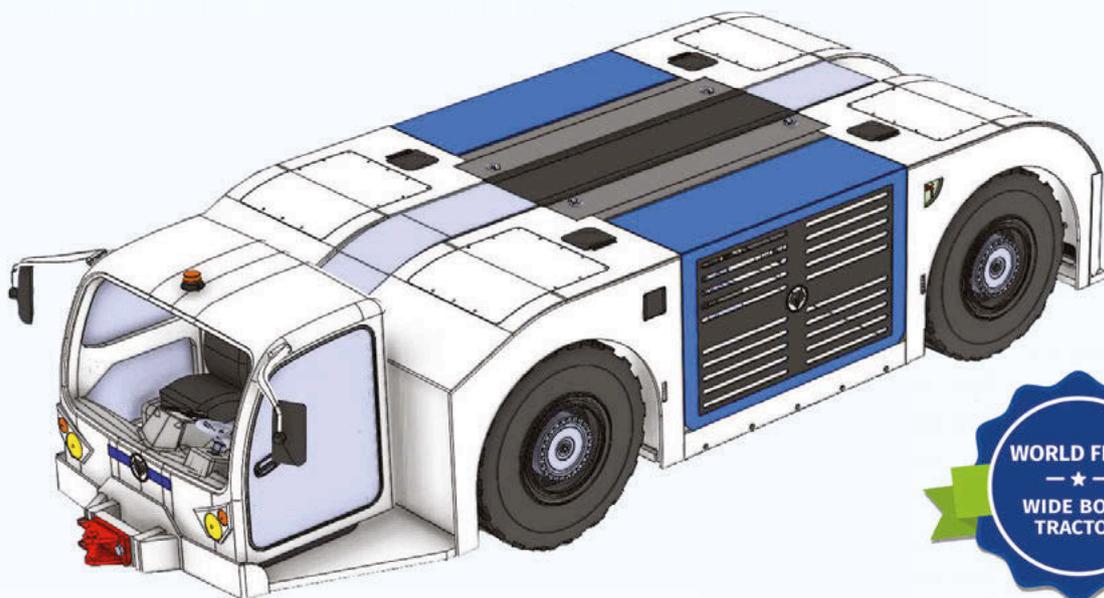


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THE GHI CONFERENCE COMMUNITY

This issue, the great ground handling skills crisis and filling the gaps through cross training

MULTI-SKILLING COULD BE THRILLING



“You don't need a crystal ball to know that contract margin squeeze will loom large again in 2020. Flybe's bailout, hot on the heels of Thomas Cook's collapse, illustrates the harsh realities of a high cost, low margin game. It's a gruelling environment in which ground handlers have had to adapt to thrive. Bolstering operational efficiency, consolidation, refining service quality and embracing volume have all been evolutionary essentials. We're left with a breed of lean, mean, turnaround machines who embrace margins so slender they wouldn't be out of place in the pages of an A5 jotter. But, we might just have overlooked something crucial along the way: getting more out of our people. Drop in on the typical crew room in between turns and you'll find a huddle of operatives watching TV or checking their phones before the next arrival. Likewise with PCAs before they're due back at the gate.

Every employee deserves lunch and tea breaks, of course. However, we do face a systematic challenge with employee downtime during the stop-start world of the airport. Multi-skilling offers a fascinating, if controversial, countermeasure. Imagine a station where the team leader positioning AKEs in the hold is the same individual checking passports and wishing you a fond farewell at the boarding gate. 'Impossible,' I hear you cry. 'A rampie would turn the airwaves blue and a PCA would suffer a hernia if we got them shifting bags in the hold.' Yet, the benefits of cross training for employee and employer are compelling. Multi-skilling has been shown to enhance job satisfaction and personal development. It also boosts staff retention levels, productivity, flexibility and fosters teamwork between disparate areas of the business.

Projects could start small: operatives assisting with labour-sapping PRM requests or pairing up with agents on continuous improvement project groups. It's down to us, the business leaders, to change the culture. So, let's stop pigeonholing people as either front or back of house and shake up the way we hire, train and task our employees. Expect plenty of angst along the way; but if multi-skilling enables a happier, more agile station operating on a much-improved margin, then the end surely justifies the means. What do you think?



Max Gosney
Conference Chairman, GHI, max@groundhandling.com

THE BIG DEBATE

Skills crisis deepens

Acute ground handling skills shortages are jeopardising safety at European airports, with the drought in personnel getting worse, GHI can exclusively reveal.

Almost 80% of operators reported a skills shortage in our Skills Survey 2020 – a 25% increase since the survey was last conducted in 2017.

A further 77% of the 100+ aviation business leaders surveyed, said that they had suffered a lost time accident or near miss as a direct result of the dearth in personnel. At least one in ten flights is adversely affected because of ground handling skills shortages in more than 50% of operations, the survey found.

“There is a general lack of people with skills who are interested in working at the airport,” said one respondent. Another added: “It's very challenging to recruit and retain high quality staff as



plenty of opportunities exist in adjacent industries that offer better pay and more family-friendly working hours.”

Ramp operatives and passenger check-in agents are the most problematic positions to fill, according to GHI's Skills Survey. Poor pay was named the top reason why employees in these roles quit. However, 43% of aviation leaders said they felt current pay levels for ramp operative and check-in roles were commensurate with the responsibilities of the job.

Only half of ground handling respondents said they had communicated their challenges with skills shortages during contract negotiations with airlines.



MEET THE GHI DELEGATE

Roswitha Becker, MD at GLC, on the need for greater diversity in our sector and sunsets over Cape Town

idea of distant exotic places – being an avid traveller already in my youth, I was always intrigued by the way the world and its people live.”

GHI: Best bit of career advice?

Roswitha: “Know yourself, surround yourself with a great team whose strengths complement yours and say ‘yes’ to challenges.”

GHI: What one thing would you change about our industry and why?

Roswitha: “I would like to see greater diversity in leadership

GHI: What's your favourite GHI Conference memory?

Roswitha: “I have a few that really stand out so it's a tough task to choose one, but it would have to be Bali – the combination of the hard work, great cuisine, beautiful location and affordable massages are hard to beat.”

GHI: Who/what inspired you to seek a career in aviation?

Roswitha: “I am in love with the

NOTICEBOARD

✦ Aviation leaders go on tour

GHI took a group of aviation business leaders out on the apron (right) to discover the secrets of operational excellence on a tour of Celebi's station at the new Istanbul airport this month.

The tour formed part of the 2nd GHI Leaders Academy and brought delegates face-to-face with a smart cargo warehouse facility and turnaround activity. Attendees also enjoyed a hands-on workshop on establishing career paths from ops through to senior management.

✦ GHI's Asian Conference deferred to 5-7 May

GHI has postponed the 13th Asian Conference from 17-19 March until 5-7 May in response to health recommendations from the Singapore Government over coronavirus. The government urged organisers to defer large scale events as part of a heightened



response to restrict the spread of the virus in an announcement on February 7. See asian.groundhandling.com for the latest updates.

✦ Do you have a safety story to tell?

GHI is looking for aviation operators who can deliver 'how-to' presentations on delivering a high safety culture at their stations. Do you have a successful safety boosting initiative that you are proud of? Email max@groundhandling.com



HAVE YOUR SAY

Have you got a view on what's happening in the ground handling industry? Do you want to comment on your experiences at a recent GHI conference? E-mail your views to Max Gosney at max@groundhandling.com and your letter could be published in our next issue.

GHI SKILLS SURVEY FINDINGS:

79% report suffering a skills shortage at European stations

77% say a skills shortage has been directly complicit in an accident or near miss

62% say skills shortages have caused a deteriorated service to airline customers

48% say a formal diploma/accreditation for employees would boost retention

How are skills shortages affecting you? Email your comments to max@groundhandling.com

and a quicker uptake of innovation to ensure your industry continues to thrive in the future."

GHI: The best thing about your career so far?

Roswitha: "It is tough to choose one; I think I've been incredibly privileged to have had some extraordinary experiences. What does stand out for me is working with incredible people and seeing the world."

GHI: How do you unwind away from work?

Roswitha: "Like most Cape Townians, it involves sunset, a glass of wine, friends and family."

BIRDSONG

The best tweets from the GHI Conference Community. Follow the GHI team [@GroundHandling](https://twitter.com/GroundHandling)

@VirginAtlantic

Dec 27 A special shout out to all our crew, ground handlers, and office staff, who are #backtowork not only today, but 365 days a year

launches new Transport Safety System to prevent #baggage and #cargo falling from dollies on the #airport ramp. Read more: <https://bit.ly/2u2N98Q>

bids for a 100 percent stake in Air India Express and Air India's entire 50 percent stake in ground handling company AISATS.

@GroundHandling International

Jan 15 @aurigotech

@CNBCTV18News

Jan 28 The government has also invited preliminary

@Reuters

Feb 10 Latest on coronavirus spreading in China and beyond <https://reut.rs/2w3ArYx>

DATES FOR YOUR DIARY



5-7 May: 13th Asian GHI Conference

Where: Marina Bay Sands, Singapore

More: asia.groundhandling.com



12-13 May: 9th GHI Safety Conference

Where: TRYP Barcelona Apolo Hotel, Barcelona

More: safety.groundhandling.com



23-25 June: 6th GHI Americas Conference

Where: Sheraton Buenos Aires Hotel, Buenos Aires

More: americas.groundhandling.com



Boxing clever

SAS is to launch a new packaging of the award-winning New Nordic by SAS food concept. The new design of the cube is calculated to save up to 51 tonnes of plastics per year. This is one of many important steps toward reaching the SAS goal of having 100% sustainable materials in the customer offering no later than 2030.

With the emphasis on a contemporary in-air dining experience, using locally produced and seasonal ingredients, New Nordic by SAS has had a sustainability focus since it was launched in 2017. The new packaging was launched in late November, with a fresh design and more sustainable materials.

“Every day we develop our service offering and constantly evaluate everything we load onboard. We remove what is not needed and work to find innovative solutions for our materials and packaging,” says Karl Sandlund, EVP and Chief Commercial Officer.

Some form of plastic is often necessary because of food safety requirements. Therefore, the suppliers of SAS have come up with a solution that replaces the inside plastic container of the cube with a paper one. It is made of FSC approved paper with a plastic coating, itself made from organic plant-based plastic instead of the more usual oil-based option.

The cutlery kit in the cube has also been changed. The new kits are adapted to each meal in order to minimise the use of resources, meaning that each piece of cutlery is offered only if needed. It is calculated that by May 2020 the new cutlery will be found in every cube.



STUTTGART'S GREEN CREDENTIALS GROWING

Late last year Stuttgart airport introduced four fully electric baggage and cargo tractors for fast, quiet and emissions-free cargo handling. Just as powerful as diesel bag tractors, but up to 60% more economical, the Sherpa E tractors supplied by Goldhofer are now being used to tow all air cargo to required destinations.

“In 2018 we first started using zero-emission, battery-operated technology to handle passenger and baggage movements on the apron. We have now done the same in the cargo sector by replacing diesel-powered cargo tow tractors with the emissions-free Goldhofer vehicles,” commented Dr Arina Freitag, Managing Director of Flughafen Stuttgart.

Goldhofer’s airport technology experts were closely involved in the planning, organisation and installation of the necessary charging infrastructure. “We are delighted that the power, efficiency and sustainability of our high performance tow tractors are helping Stuttgart airport to achieve its ambitious climate targets. At the same time, it motivates us to continue developing complete ground

handling solutions based on sustainable technologies,” added Lothar Holder, CEO, Goldhofer, and Head of Airport Technology.

Goldhofer says that its electric tow tractors offer the same high levels of reliability, safety and flexibility as the diesel-powered versions, while energy savings can be as high as 80%. The highly efficient 400 V lithium-ion battery is designed for fast charging, while intermediate charging is also possible in even the shortest of breaks, thanks to Goldhofer’s IonMaster technology. The net result is 30% higher availability than with lead-acid batteries so that the Sherpa E can be operated almost continuously over several shifts. In addition, active temperature management ensures maximum battery service life. The Sherpa E can be operated both indoors and outdoors and it comes with a choice of ballast weights and three cabin options. With these individual configurability possibilities, the tow tractors can be customised to meet the specific requirements and operating conditions of any airport.

IN BRIEF

In South Africa, Solaris-based biodiesel is set to be integrated with ground handling operations at OR Tambo International airport. Sources indicate that this will support a feasible scaling up of feedstock production and infrastructure to the point that a fully localised value chain for a hydro-treated vegetable oil refinery could be built at some future date. This would produce bio-jet fuel and green diesel. Endorsed by South African Airways, the collaboration involves Sunchem, Swissport, The Royal Bafokeng Nation and iLive.

Australian carrier sets its sights on zero

Following the move by IAG, Qantas has become only the second airline group to commit to a net-zero carbon emissions target by 2050. In November the carrier announced that with immediate effect it and its subsidiary, Jetstar Airways, would match every dollar spent by customers opting to offset the carbon footprint of their flights. This, the group believes, will encourage more travellers to offset their emissions. In addition, the group, which also includes QantasLink and Qantas Freight, will offset the growth in emissions from all domestic and international operations from 2020, going beyond its obligations as laid down in the CORSIA agreement. Qantas has said that it would invest A\$50m (around US\$33m) over the next decade to help develop a sustainable aviation fuel industry.

Qantas' CEO, Alan Joyce, spoke on the net-zero announcement. "We've already made some good progress, especially by investing in newer aircraft that have a much smaller carbon footprint."

CUTTING THE CARBON

Fraport AG has been systematically implementing stringent climate targets since 2008, when the airport operator first defined these goals. For the eleventh consecutive year, Fraport has now received climate certification for Frankfurt airport under the Airport Carbon Accreditation programme. Launched by the Airport Council International Europe, the ACA programme assesses how successful airports are in decreasing their carbon footprint.

ACI Europe's Airport Carbon Accreditation programme comprises four climate certification levels for airports: Mapping, Reduction, Optimisation and Neutrality. Assessments for granting the certification are carried out by independent experts. Fraport again achieved the "Optimisation" level for Frankfurt airport. Compared to 2001, Frankfurt airport cut its CO₂ emissions by more than 40% which was the equivalent of

some 127,000 tonnes overall.

During 2019, ACA-certified airports worldwide achieved total CO₂ savings of over 320,000 tonnes. Fraport AG's Head of Environmental Management, Dr Wolfgang Scholze, said: "In 2008, we set international standards by contributing to the development of the ACA climate protection programme. In 2009, we were the

first airport operator in the world to be certified." In addition to Frankfurt, six more airports in the Fraport Group are now certified under the ACA programme.

In 2018, Fraport's carbon footprint for Frankfurt airport amounted to 188,631 tonnes of CO₂. The 2019 figure is not yet available, but it is forecast to be around 175,000 tonnes. "We are making consistently good progress," emphasised Dr Scholze. Over the next ten years, Fraport has said that it intends to cut its CO₂ emissions at Frankfurt airport to 80,000 tonnes a year.



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Fraport Slovenia's water service unit from Mallaghan at the picturesque Ljubljana airport

THE BAIR NECESSITIES

The Deputy Editor sources a round-up from the manufacturers in the lavatory and water services sector.

While not the most glamorous of areas in aviation, that of potable water and toilet services is nonetheless a necessary aspect of aircraft maintenance – and one that can cost a lot of time and money if not done correctly. The manufacturers bring an update on this specialist sector.

China's choice

China-based Weihai Guantai Airport Equipment manufactures four models each of potable water and lavatory service vehicles, including one electric offering for each application.

Zheng Junyue, Product Specialist, International Business Division, comments on the company's main markets. "Although we do sell the trucks overseas, most orders come from Chinese domestic markets. Each year, we deliver around 30 units of lavatory trucks and about the same number of potable water trucks to airports all over China," she relates. Most popular are the 3 tonne and 4 tonne units, according to Zheng. "GGS30 and WGWS30 used to be the bestsellers, while in recent years there

is a growing demand for larger volume, so WGS40 and WGWS40 has been gaining popularity." The GGS50 and GWS50 are becoming a rarer choice, she adds, ordered only when volume demands necessitate it.

Customers praise the ergonomic design and ease of operation of Weihai's units, Zheng continues. "Hangzhou Xiaoshan airport and Kunming airport mentioned the six-point floating supporter technology, which brings a smoother drive to the giant water tank. Instead of welding the tank solidly to the chassis, we put three pairs of the supporters under the tank. The supporters act as buffers while driving, making sure the tank moves smoothly without shock," she explains.

"Recently we have developed electric-powered models for both lavatory trucks and potable water trucks as a part of a plan to eventually supply the full range of electric GSE," she goes on to say. Weihai has already developed a catalogue of at least 12 electric machines, from hi-lift loaders to passenger steps and buses. "All the newly developed electric models come with lithium batteries," she adds.

Going green

Zheng asserts that conversion to electric is the biggest development that the sector is currently seeing. Weihai's own electric offering was deployed into the market in around 2018-2019. "Recently, most of our modifications and developments have been focused on clean energy: that includes upgrading the diesel emission level and electric power. Our priority in 2020 remains electric power and we are ready to put the full range of electric-powered GSE into the international market."

She believes China is marginally ahead of other countries in the trend towards clean energy. "Our government has been attaching a lot of importance to the environment and has issued relative policies aiming to reduce emissions. So as a China-based manufacturer, we have been very keen to go electric and upgrade the diesel emission standard."

TLD also flags up its electric lavatory offering – a project that began in 2015, with the first prototype built in July 2016 at its Wuxi, China, factory. "With the increased focus on reducing harmful

emissions and using clean energy, it was decided to develop a fully electric-powered vacuum aircraft lavatory servicing vehicle," says Jeff Wu, COO of TLD Asia. The electric LSP-900-V-E lavatory service unit boasts lower gas and noise pollution than a diesel, and is more economical thanks to savings on fuel, lubrication oil and filter replacements. "With a 900 gallon capacity, the unit incorporates a vacuum system capable of finishing the job within seconds. The positioning of the cabin, meanwhile, enables a frontal approach towards the aircraft, which helps to prevent aircraft damage," asserts Wu. "The LSP-900-V-E is able to service one A380, three A330s, almost 20 A320s, 35 B737s or two 747-8s before the waste must be disposed of. Furthermore, a high capacity (600Ah) lead-acid battery enables the equipment to travel for at least 75 kilometres whilst fully loaded and on a single charge."

There is also an option for a lithium battery, capable of providing more than 8 hours' operation in a single shift, while the heating system ensures that the LSP-900-V-E works well in temperatures as low as -20 °C.

Electric evolution

At the InterAirport Europe show in October 2019, Scandinavian manufacturer Vestergaard also pledged its environmental commitment, announcing its goal to supply CO₂ neutral equipment by 2030. The company presented its first Vacuum Toilet Service unit, built on its own electric chassis at the exhibition. "Water and toilet service units can be mounted on the new electric chassis and the first units will be tested with customers during 2020," says VP Sales and Marketing Lars Barsoe. Suitable for a number of GSE applications, the fully electric 12 tonne chassis is

NEW TO THE FOLD

France-based Miloco GSE has recently added a lavatory service truck to its portfolio, which also includes bespoke dollies and trailers, to meet customer demand, relates Export Sales Manager, Antoine Coatmellec. "The cleaning unit is set up on an electric ZE chassis, with a choice of lithium battery or petrol engine vehicle. Appropriate wastewater treatment is provided according to aircraft type, thanks to control panels adjusted by the operator," he says.

Elsewhere in France, Sovam has also added a lavatory truck and fresh water replenishment vehicle to its GSE line, both equipped with a de-freezing system. "These two units were launched mid-last year," relates Managing Director Alain Péru. "For the time being, our offer is limited to western Europe as a version suitable for extremely cold environments still needs to be developed. This is our plan for the end of this year/early 2021. The range of this product family will be extended in the meantime, too."

equipped with a 40 kWh lithium-ion battery, capable of operating for 12 hours and covering up to 50 kilometres.

Its water and toilet service units in general continue to sell well to customers all over the world, Barsoe continues. "In 2019 we produced a large order for a European customer. This order includes the new Data Transmission System solution for water and toilet service units. The last unit of this order was delivered in January 2020."

French ground handler OVID recently took delivery of the last four units from an order of 34 Vestergaard toilet and water trucks. COO François Harel offers feedback. "We received the first two in July 2017 to test and adapt them to our activities in collaboration with Vestergaard before ordering the entire fleet. The last four were delivered in January 2020." OVID made the switch to Vestergaard after suffering ongoing problems with the units from its previous supplier, with whom they had 30 trucks, Harel reports. The handler's high volume operation presented an opportunity for Vestergaard to further develop its equipment, he adds.

Tailored offering

Potable water and toilet service vehicles are a staple of the Mallaghan product portfolio,

too. Designed to suit all aircraft types, tank capacities range from 1,000-4,500 litres and units can be customised to suit the needs of the customer, explains Marketing Manager Sebastian Koellner. "Our toilet service trucks offer significant value proposition to the market, with a robust vacuum system that allows operators to reduce both aircraft turn times as well as maintenance events driven by blockages," he relates.

The design continues to evolve in response to customer feedback, with additional features such as steam generators and batch control systems recently introduced. Vehicle winterisation systems have been further developed to suit extreme weather conditions of up to -40°C, meanwhile. More than 30 units with the Arctic Winter Kit and customised configuration have been delivered to clients in North America, Poland, Russia and Slovenia since 2018.

Fraport Slovenia is using Mallaghan's water service unit at Ljubljana airport. Says Karol Ahčin, Ground Handling Technical Manager, "We are very satisfied with the provided winter package and good insulation. The steam generator device for de-icing icecaps on the aircraft's connector is working excellently."

Owen McKenna, Sales Director at Mallaghan, says that the manufacturer works closely with customers to understand their specific needs and exceed their expectations. "As a result we have experienced an increase in demand for our water service units and toilet service units in the last 18 months, with orders for more than 140 units," he notes.

Recent business includes contracts with Delta Air Lines and United Ground Express to produce a Vacuum Toilet Service Unit for the North American market last year, utilising an Isuzu NPR-HD chassis and petrol engine. The manufacturer also enhanced the chassis range for Europe and the Rest of World, introducing the MAN TGE model.



Vestergaard's electric chassis for toilet and water applications was unveiled at InterAirport last October



TECNOVE by JOFRAUTO's production of toilet and water GSE doubled from 2018 to 2019

An alternative option

Lavatory and potable water service are also a main product line for AERO Specialties, which specialises in units for business and regional jets, explains Derek Rose, International Sales and Marketing. "We are known as the industry experts in this field. Our line of products includes towable carts as well as a self-contained lav unit that bolts into any long-bed, 3 to 4 tonne pick-up truck." The company also offers a self-contained lavatory servicing solution for regional or narrow-body aircraft.

While most suppliers provide the complete truck system, AERO Specialties offers its customers a much-appreciated alternative, manufacturing a series of potable water and lavatory service "inserts" that can be mounted upon a truck or service vehicle of the customer's choosing, allowing flexibility and cost-savings. "Additionally, the units can later be separated from the truck system for mounting upon a cart system or other fleet vehicle." Many such units are on order by handlers of narrow-body and regional aircraft, he adds.

AERO Specialties also offers a unique toilet system. "The new patented AERO Specialties Safe-Lav System addresses the aircraft damage that can arise from improper lavatory service, as countless dollars and flight hours are lost each year due to damage caused by overfilling aircraft lavatory systems and the subsequent airframe damage," asserts Rose. "This system utilises a dedicated batching tank to determine and restrict the maximum quantity of fluid that can be delivered to the airframe. This eliminates the potential for aircraft overfilling due to broken flow meters or human error." Overfilling the system can also flood

the airframe galley and fuselage, he adds, and the cost of such an incident can be staggering. "We expect this inexpensive, yet ingenious system to save the aviation industry millions of dollars in aircraft damage and downtime. This product can be installed on new lavatory service carts and trucks or as a retrofit kit to units in the field."

Keeping it simple

TECNOVE by JOFRAUTO added water and lavatory trucks to its portfolio in 2015, and manufacture of these units now represents 10 to 15 % of its production.

"In 2019 we produced 21 water and lavatory trucks: more than a 50% increase from our production (of 11) in 2018," says Technical Manager Francisco Mellado. "Currently, all our vehicles are operating in our local market of Spain, but from 2020 we have decided to extend our production to other EMEA countries."

Production of some units for Africa and the Middle East has already begun, he adds.

TECNOVE by JOFRAUTO prides itself on producing simple, effective GSE solutions, reports Mellado, and on its customisation of GSE. "We understand that the customer is not only concerned

with the main regulations but also with the local requirements and safety. We discuss with them and the user any additional, specific technical characteristics and ask them what adaptations the GSE needs to be more effective. We then study the viability of them with our engineering department and if possible, we will introduce them into the production."

Owing to its production scale, Mellado continues, TECNOVE by JOFRAUTO benefits from scope for adaptability when building its toilet and water units. Capacity can range from 1,000 to 3,000 litres, while optional extras include a vacuum pump, rear basket and a 360° camera system. "During 2020, we will continue work to develop our new electric GSE solution for water and lavatory," he relates of the company's ambitions this year.

US-based Phoenix Metal Products also places its emphasis on functional, no-frills GSE: an approach that continues to bear fruit as it enters its twenty-fifth year serving the US lavatory and water service market, with both towable and motorised equipment.

Says company President, Brooks Price, "Since we first started our company, Bill Wilcox [Sales Director] and I have tried to make equipment that was simple in design, easy to maintain and to provide the best support of those products that we can. We continually strive to maintain the designs without overly complicating or adding costs that do not pay off to the end user."

Customer AccuFleet began its relationship with Phoenix Metal Products nearly 20 years ago. "We have some of the originally purchased equipment in our operations today," says Todd Van Winkle, Director – Technology, Systems & Capital Equipment. "What sets Phoenix Metal Products apart from the competition is simplicity in design and function, innovation, and quality. The initial lure was their use of stainless steel in the

construction of not only the fluid tanks but frame and exterior panels. This minimises corrosion and appearance upkeep is much easier," he relates.

"Electrical and hydraulic systems have not changed much over the years and we appreciate them keeping this simple and easy to work with."

From old favourites to accelerating advances in alternative power and newcomers to the field, it seems the provision of toilet and water services is a more fluid sector than you might think. **ghi**



AERO Specialties' Safe-Lav System eliminates the possibility of overfilling



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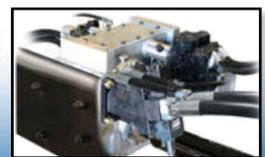
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Mallaghan enters airport bus market



With over 30 years' experience in the design and manufacturing of ground support equipment for customers in more than 100 countries across the world, Mallaghan has launched its first airport bus.

The Mallaghan 50W, unveiled at the 2019 Inter Airport Europe Exhibition in Munich, is a high capacity airport bus, carrying up to 118 passengers.

Chief Executive Ronan Mallaghan said the company's entry to the airport bus market was to meet customer demands as a result of increasing passenger numbers across the world.

Extending the product range

He continued:

"The Mallaghan 50W airport bus broadens our already extensive product range and heralds a new dawn for Mallaghan and our 450 employees based at our seven locations across the world.

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Adrian Dunne, Ryanair Director of Operations,

"Ryanair is delighted to be the launch customer for the new Mallaghan bus, who we have worked closely with in the design, specification and delivery of.

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Plenty of foreign air carriers pass through Kazakhstan every year



De-icing at Kazakh airports may need implementing for six months of the year



Nur-Sultan Nazarbayev is a key airport and thrives on its geographical position

Caspian contenders

The Republic of Kazakhstan is the ninth largest country in the world in terms of territory size, with a growing population of 18.4m. The country is favourably located in the centre of continental Eurasia and Kazakh authorities have been actively working to increase its air transit traffic, stressing the advantages of the location.

Almaty International airport and Nur-Sultan Nazarbayev International airport are the key air gates of the country, topping the list of 18 airports of republican and regional significance operating in the state. Over the past few years, the share of passengers served by the airports of Almaty and Nur-Sultan annually amounted to about 40% and 30%, respectively. As of 2018, Almaty airport's share rose to 52%; airports of Aktau, Atyrau and Shymkent follow, and make up about 5-7% of the total structure of passengers served.

All airports have their own ground handling services and local airlines such as Qazaq Air and FlyArystan also have ground service operations. Major ground handlers include Almaty and Nur-

Sultan airports and the ground handling department of Air Astana. Minor ground handlers include Tarlan Aero, Forpost Aero Services, Astana Aviation Services, K-Generation and Apogee.

Discounted tariff policies

Nur-Sultan Nazarbayev International airport has improved its ground handling tariff policy and is now offering discounts to attract more carriers. This discount was approved for passenger and cargo flights as well as de-icing services. The passenger flight discount is for regular international flights with a frequency of two or more actual flights per week. Special circumstances include anyone offering an air service on which flights were not

operated for more than three calendar years; and new operators of aircraft whose flights were not operated at the airport or were not operated for more than three calendar years.

Cargo flight discounts are the same as for regular international cargo, with a frequency of two or more actual flights per week, with special circumstances. These are new operators of aircraft whose flights have not functioned at the airport or have not been carried out for more than three calendar years; and for the operator, any carrier increasing the frequency of flights in relation to the previous (similar) season.

Discounts are applied on the basis of agreements concluded between the airport and the aircraft operator and are subject to the conditions stipulated in the contract. Discounts spread to current fares and are valid for regular international passenger flights on new air traffic for no more than five seasons in aggregate. The benefit of discounts terminates upon expiration of the terms established by the agreements concluded between the airport and the carrier.

The lowered service fees

Number	Name of service	Unit	Tariff without VAT (USD)
1	Landing/take-off (International)	Per ton MTOW	4.24
2	Providing an aircraft parking stand for more than 3 hours after landing for passenger and 6 hours for cargo and cargo-and-passenger certified aircraft types (International)	Per ton MTOW for one day. This is calculated for each hour the aircraft remains on the parking stand. Part-hours are counted as one hour.	0.91
3	Marshalling	Per one ton MTOW	230.77

Footnote: US\$1 = 387 Tenge

De-icing incentives

Nur-Sultan is one of the coldest capital cities in the world and so aircraft de-icing often begins in late autumn and runs through to early spring. Tariff cuts for the removal of snow and ice from aircraft surfaces, dependent on carrier frequency, have been approved.

In the case of the purchase of de- and anti-icing fluid from the airport when the operator performs regular flights, discounts are applied to the tariffs but are dependent upon the fluid type and the overall volumes that were purchased in the previous year.

Discounts are applied on the basis of agreements concluded between the airport and the aircraft operator for ground handling services; these are valid for 12 months. Discounts apply to current rates and the application of discounts for the aircraft operator is carried out under the conditions stipulated by the agreement. The discounts are terminated upon the expiration of the terms established by agreements concluded between the airport and the aircraft operator, as well as from the moment the airport might approve new tariffs.

In any event, all applicable discounts are subject to cancellation by the airport before the expiration of the established term if either of the following conditions is present: the economic inexpediency of further application of discounts or a failure to comply with the conditions stipulated by the contract.

GSE upgrades at Almaty International

The geographical location of Almaty International airport has contributed to its development as a transit hub. Justifying its purpose, Almaty International has an extensive foreign route network among Kazakhstan airports. Currently, about seven cargo airlines and 28 passenger airlines are served at Almaty, which averages 173 flights per day.

Over 2018 Almaty airport handled 61,291 arrival and departure flights, serving a record number of passengers, some 7.9m people in all. Aircraft

refuelling is carried out by airfield tankers, whose fleet is updated annually. In 2019, two more modern tankers were purchased and commissioned. For filtering jet fuel, modern filters from FAUDI are used. For fuelling aircraft, airlines rely on the latest Kar Kunz aviation refuelling tankers.

The airport investment programme for 2018 was approved by the Board of Directors to the amount of 5,916m tenge. Expenses have been directed to the modernisation of GSE in a phased manner. In order to maintain its ground-based infrastructure in operational suitability, the management of Almaty International airport annually plans the cost of purchasing ground-based special vehicles. In the framework of the investment budget for 2018 it procured special vehicles worth 1,561m tenge. This expenditure included provision for a Neoplan apron bus, two Mulag beltloaders, Goldhofer and Schopf tractor units as well as fork-lifts, a catering truck, a de-icer and a loader.

For 2019, the airport also planned capital expenditure related to the ground service: construction of the on-board catering building absorbed 1,800m tenge whilst the construction of a garage for 35 cars totalled 415m tenge. A car washing facility for the service of special vehicles is also planned and put at 60.7m tenge.

On a broader canvas, the airport also procured ground-based power sources and an aerodrome service painting facility, and recently upgraded its emergency medical centre.

Airport revenues amounted to 65,312m

Tariffs for airlines operating regular passenger domestic flights

No	Name	Unit	Price in tenge without VAT
1	Check-in domestic regular passenger flights	One counter per flight	9,065.18
2	Handling domestic regular passenger flights	For one departing passenger	672.32
3	Baggage handling domestic regular flights	Per baggage item	207.14
4	Baggage transportation	15 minutes	3,111.61
5	Loading/unloading of baggage	Per ton	1,220.54

tenge (US\$168.8m) in 2018. In terms of share, fuel sales accounted for the largest portion at 57%, followed by ground services revenues (31%), provision of on-board catering (8%) and others (4%). For the revenues from service provision, Air Astana, Lufthansa and Turkish Airlines made up 15%, 15% and 14% respectively, followed by Polar Air Cargo (at 12%), Aeroflot (11%), UPS (9%), SCAT Airlines (7%), Atlas Air (7%), Hong Kong Airlines (5%) and Ukraine International Airlines (5%).

The open skies regime

Since November 2019 Kazakhstan has been busy implementing an open skies regime at 11 airports, namely, Nur-Sultan, Almaty, Shymkent, Aktau, Karaganda, Ust-Kamenogorsk, Pavlodar, Kokshetau, Taraz, Petropavlovsk and Semey. The open skies regime will allow more foreign carriers and more flights to operate at Kazakh airports.

According to the Ministry of Industry and Infrastructural Development,

KAZAKH DATA

In 2018, Kazakh airports between them handled over 15m passengers, representing an increase of 3% over the previous year, including 900,000 transit passengers (which was 45% higher). The same year, over 29,000 tonnes of air cargo was transported, this up 30% year-on-year. For the first eight months of 2019, domestic airlines carried 5.6m passengers.

the regime provides the removal of restrictions on the number of flights and the provision (to foreign airlines) of the fifth freedom rights in areas where Kazakh carriers do not operate.

Foreign carriers flying under the above-mentioned freedom will be authorised to make connections through the cities to

urban areas in third freedom countries. The change is intended to enhance Kazakhstan's transit potential and traffic through domestic airports. The mode will be valid for three years (with a possible extension) and potentially could expand to the domestic ground handling market.

Following the decision, some negotiations were held with overseas counterparts. For instance, as a result of discussions with the aviation authorities of Oman, low cost carrier SalamAir plans to begin flights from the capital city Muscat to Almaty in 2020; whilst other agreements include those with AirAsia, Singapore Airlines, LOT Airlines, Ural Airlines and China Eastern. There have also been meetings with Qatar and United Arab Emirates aviation authorities, since Qatar Airways, Emirates and FlyDubai are all expected to follow suit.

In conclusion, the country is certainly pulling out the stops in an effort to bolster its advantageous geographical position. And, from the data available, its strategies appear to be working. *ghi*



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Slightly tangential, ISS has set up a dish washing facility in Frankfurt



Aerowash, with success in Asia and the Middle East, has taken its products to the US



Benefits of a clean exterior are important when salt water is on the route

WATER WORKS

Aircraft washing remains a niche sector yet one that brings manifold benefits to the user, notes the Editor.

“For Riveer, 2019 has been a very busy year in terms of the aviation wash and clear water rinse side,” states Jeff Rowan, Director Military Programs at Riveer Environmental. “CWRS (clear water rinse/wash systems) installations took place in a number of locations around the globe, with additional systems booked for future installation.” Aircraft wash systems are seeing good traction as well, with Riveer unveiling both the Wingman hot water hangar wash skid and a prototype deployable wash cart, the ACDS, which is now undergoing testing down at Fort Campbell. “We have made improvements to the programme and the hardware on our aircraft clear water rinse systems that are allowing for better control of the water delivery as well as better water recovery and management.”

This latter comment is indicative, perhaps, of the growing interest in matters

environmental within the aviation sector.

Rowan continues: “The vast majority of our aviation business was in the military sector, split almost evenly between foreign and domestic customers. On the commercial side, our wash bay and wash booth systems continue to draw a lot of interest for component washing tasks and we see this segment as an opportunity for us in the future, using aircraft-safe and specific equipment, and not off-the-shelf options. Many of these off-the-shelf solutions end up doing more harm than good and often exceed manufacturer limits for water application. At this point, our 2020 production schedule is filling fast as well, so I would say some of the military is embracing the benefits of proactive corrosion mitigation and stepping up their efforts in this area – but there is a lot more work on our part to be done in the education and best practice arena.”

Last year saw the company install a

bespoke helicopter wash system at Fort Campbell that uses high efficiency hot water boilers to provide hot water for the aircraft wash system installed there. This was a unique system in that Riveer sited the hardware (two hot water aircraft-safe wash systems, a high volume foam delivery system and an aircraft-safe water cannon) outside of the hangar in a modified ISO container. All utilities enter the hangar through an insulated, custom fabricated passage, while powered hose reels and a remote panel allow the system to be controlled from the hangar. This provides a hot water wash system while using a fraction of the natural gas needed for a traditional burner and coil heater set-up.

Another busy year

Last year was also a very busy time for Aerowash, relates Niklas Adler, the company’s Managing Director. “On the



TOP-RANKING SOLUTION FOR THE MILITARY

A source within the 160th was able to comment on one particular military installation from Riveer. “We had an existing indoor wash system that from the date of installation was non-functional. After over two years of attempting to work through the installing vendor, we broke ranks and asked Riveer to fix it or replace it. Having surveyed the equipment they told us they did not wish to attempt a repair, and that it would be more cost-effective to replace the unit.

“The solution that Riveer offered was a modified shipping container that was insulated and outfitted with two high efficiency, on demand water heaters as well as the necessary pumps, control panels, high capacity air compressor and utilities. This piece of equipment was required in order to fully wash Blackhawk and Chinook helicopters for pre-deployment, post-deployment, scheduled maintenance and, when scheduling allowed, to conduct normal time driven wash events. In doing so we already knew that we wanted hot water from two separate high volume, low pressure, water guns, as well as high volume foam and rinse. The entire system needed to be self-contained and basically be plug and play, with existing connections for utilities.

“From the of the funding to the time of installation was probably 60 days. The installation was executed with a local contractor doing the utility connections with Riveer overseeing the equipment emplacement. The system literally worked flawlessly from the very first moment that power was applied. In turn, our soldiers conduct better washes because of the state-of-the-art, reliable, equipment that was provided and because of that they conduct better maintenance since they are working on cleaner aircraft.

“We take the “special” very seriously in our name of Special Operations: we demand the best, most reliable equipment available. We have a no fail mission and we expect the same of our equipment. Riveer has provided us, consistently and repeatedly, with the best equipment available on the market.”

marketing side, we really started to gain traction in the US market, together with our US distributor, that of US Aviation Services. We also opened our own US subsidiary last year, Aerowash US. During the first quarter we will deliver four washing systems to the US, and more will follow.

“Again, in the Middle East and Asia, we have been very active, with new partnerships in several countries. The growth in the aviation industry in those regions also gives the sector a strong push to become more effective when it comes to washing. We expect that Asia and the Middle East will grow a lot during the coming years.

“In Europe, we mainly focused on the InterAirport show in Munich. It was a great success, with a lot of interest shown from all parts of the industry. Europe still feels a bit slow compared with Asia and US, however.

“On the technical side, we introduced a new brush last year for ‘dry wash’ cleaning. The ‘dry wash’ concept is also an emerging trend that we believe will grow stronger in the marketplace. The reason for this is that it allows more flexible washing since no water is used, making it address environmental concerns and the like.

“Naturally, our main focus has been on the civil market. However, during 2019 we also started to see a lot of interest from the military sector and at the moment we have proposals out with several air forces around the globe.

“This is a new development for us,” he says enthusiastically.



The cleaning of individual aviation-related components could be a developing market

Another good year

Last year was another successful period for ISS Ground Services, with growth in revenues and new service implementations.

“Austrian Airlines granted us a new contract for Security and Passenger Services in Terminal 3 and within three months we had set up a completely new service comprising luggage handling, passenger guidance and travel document checks,” says Sascha Niessl, Regional Manager. “We hired more than 100 new staff members within a few weeks. Furthermore, we also won the office cleaning contract of Austrian Airlines for all sites and areas, which we also successfully started by April. Despite the short setting-up time in both cases, we met the expectations of our customers and experienced a good transition with these two services.

“We also implemented a centralised

Duty Management Centre for all our airport stations, which means we’re dispatching all services on the apron from one single point of contact in Vienna. Whether it’s Stuttgart, Dusseldorf, Frankfurt or Vienna, our customer has one contact for all stations.

“We were also the first company ever to set up our own independent dish washing centre for airline catering in Frankfurt. In only 25 days we realised a huge capital project: walls, floor, lighting, air conditioning and all the washing equipment had to be set up from scratch.

“Furthermore, our team had to run the pre-existing operation without any issues and move all the processes and equipment during the same period. All the staff members did an amazing job in this project and guaranteed a smooth changeover, as well as customer satisfaction.” **ghi**

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Up, up, up...

There are well over a dozen manufacturers of this technology around the world; Alwyn Brice brings an update on a sector that is simply booming.

Battery autonomy a key feature of the latest electric hi-lifts from TLD



Chinese market moving

Chinese manufacturer Weihai Guangtai's container and pallet loaders have been designed for ease of maintenance, high reliability and efficiency, something evidenced by many examples of positive feedback from its overseas customers, says the manufacturer.

Best-selling equipment has always been the 7 tonne and 14 tonne ULD loaders, reports the company spokesperson: to be specific, the WGSJT7, WGSJT7W, WGSJT7WH and WGSJT14 models. The WGSJT7W is actually a widened version based on the standard WGSJT7 model and the WGSJT7WH is a taller version of the WGSJT7W. These popular loader types are echoed elsewhere amongst the manufacturing community.

Weihai Guangtai relates that for some years it has been selling electric loaders to Hong Kong, where in all around 20 loaders have been delivered. During 2019 it also received a few more orders from mainland China, with overseas sales starting to make progress. In short, it has been witnessing a growing market demand for electric powered GSE.

In common with other suppliers, this manufacturer has also been addressing safety concerns. After several years of improvement, its approach alarm system (the ADPS) has been honed and has proven to be extremely dependable. In addition to this, the loader structure has recently been re-engineered to achieve a steadier operation and higher efficiency. Finally, the loader's power system has been upgraded: the emission bar on diesel models has been raised from Stage 3 to Stage 5 while the battery system of the electric models has been upgraded from lead-acid to lithium-ion.

As an interesting update, all the Weihai Guangtai electric loaders sold to Hong Kong until recently were powered by lead-acid batteries. Last year one unit with lithium batteries went to Hong Kong on trial, and this could well open up the market there for lithium.

Looking good for Trepel

For Trepel's Carsten Schimkat, arguably the most significant news of late has been in the realm of pushbacks; but having said that, the company has also been busy

with the development and production of an electric 14 tonne hi-lift, which initially at any rate will be targeted at the Chinese market, where electric power is fast becoming the ramp standard, in line with government pressure. A lithium-ion battery lies at the heart of the new loader.

"Seven tonne loaders continue to be our best sellers," notes Schimkat, "but the 14 tonne version is catching up. China is also turning out to be a major customer for our loaders."

He adds that, little by little, the entire Trepel loader range is going through the electrification process: the 35, the 70 and the 140 can now all be specified with this green technology.

Looking ahead, he foresees increased capacity on the horizon, which is surely a measure of the success of this German company's output.

(For a more in-depth look at Trepel's hi-lifts, see the report on pages 31-32).

Spotlight on the US

During 2019, demand from airlines and ground handlers for the JBT Commander 30i main deck cargo loader was very

strong, driven by the dynamic growth of express air freight, declares Kevin Cecil, Engineering Manager, Loaders. “This comes 25 years after the Commander 30 (the Commander 30i’s predecessor) entered service as the first cargo loader designed to service express air freight carriers.

“Sales of the Commander 15i electric continued to remain steady, as more airports have facilities available for recharging electric loaders. JBT feels very strongly about the future of electric loaders and has recently introduced to the market the Commander 30i electric 15 tonne main deck and Ranger electric 7 tonne cargo loaders.”

The company highlight, perhaps, is that during the past year JBT has been testing a Ranger loader with an autonomous docking feature, which is programmed to automatically follow safe operating protocols when interfacing with the aircraft. A key feature of the Ranger’s autonomous docking system is its ability to interface with the cargo bay without the aid of a decal target attached to the aircraft fuselage: this was important to JBT’s customers, declares Cecil.

French polish

Last year CIMC Airmarrel saw a steady demand from its historical markets, namely Europe, Asia and the Middle East, but it also witnessed an increasing interest from the US and Canada.

“Requirement for our main deck loaders increased significantly in 2019, and while demand for 14 tonne capacity remained high in Europe, interest in heavy duty cargo loaders like our LAM35000 is sharply increasing in Asia, the Middle East and Africa, thanks to the heavier freight operations in these regions,” notes the company’s Gwenn Hervet.

CIMC Airmarrel offers now one of the most complete ranges of fully electric vehicles, ranging from 3.5 tonne lower deck to 14 tonne main deck loaders. “We developed in 2019 an electric version of the best-selling LAM3500, which is already in operation in several countries, including France; and we have just released our new LAM14000 11 series. In addition to diesel Stage 5 engines, the LAM14000 can be offered with both lead-acid and lithium-ion batteries, based on customer and regional requirement. While lead-acid batteries are more commonly used in Europe, lithium-ion is a must in China, currently the leading country for electric GSE.”

TLD has a long history of producing

Trepel’s big news is the development of an electric hi-lift destined for China



cargo loaders in North America and today it produces loaders in Wuxi, St Lin and Sherbrooke; it is the latter where the majority of TLD’s world production occurs. As with most GSE, the trend to go electric is growing exponentially, to the point that in 2019 over 50% of the loaders delivered were battery powered. Today’s E Loader production is a mix of 3.5, 7 and 15 tonne, running on lead-acid or lithium-ion, but TLD avers that the latter chemistry is becoming more and more accepted.

Part of the TLD loader attraction is the nearly universal acceptance of its Aircraft Safe Docking system (ASD) feature as a practical solution to anti-collision required by IATA. ASD +, an evolution to autonomously assist the operator in docking to the cargo door, is now being demonstrated to customers. What sets the TLD E product line apart is the autonomy it has. This is achieved through the loader’s unique architecture which is really a “from the ground up” design that focuses on energy efficiency by driving high consumption functions as much as possible electrically, rather than hydraulically, and taking advantage of the regeneration of energy when lowering the elevator platform. This energy efficiency is allowing users a full day’s work in the most demanding environments at cycle speeds equivalent to a diesel-powered machine. The already large TLD Canadian factory was expanded in 2019 to meet the increasing demand and production rates have increased accordingly, in preparation for what appears to be a strong 2020. **ghi**

FUTURE TECHNOLOGY
CIMC Airmarrel is now developing 3.5 tonne and 7 tonne loaders powered by a combination of hydrogen and electric. Many readers will know that hydrogen technology is no stranger to the manufacturer; these vehicles will be tested in France during the second half of 2020, for a scheduled product launch in early 2021.



BEYOND CONVENTION

This issue Dimitry Peters, Manager Processes & Procedures Ground Operations at Eurowings Aviation, shares some thinking outside of the box.



Having been working in Ground Operations Management for several years now, I have come up with some unconventional ideas which I would like to share with the world.

Efficiency is key, right? If the flight is late, full speed is granted, which means burning more fuel and creating a generally more stressful experience for everyone. No need to mention the safety implications here. Having conducted a generic analysis of our delays and research of this journal's topics, I found a major discrepancy. My analysis showed a huge elephant in the room that nobody is talking about.

Loader motivation

This year, we broke summer heat levels, I believe, for the tenth time in a row. Welcome, climate change! Outside air temperature on vacation is a different thing compared with the actual temperature on the ramp if you have to load baggage weighing up to 30 kilogrammes a time.

All day.
Every day.

In my analysis I basically realised that ground operations-wise it is all about the loader. That one loader, whether he or she is hot, is not motivated. If it is cold, he or she is not motivated. Psychology trumps everything. The future of ground handling



“But what do we do to improve the loader’s journey?”



improvements must include an understanding of that. And by that I mean the human factor.

Culture change

I am talking here about a general culture change. We do everything to improve the customer journey, putting technology on the ramp. We invent more procedures every day. But what do we do to improve the loader’s journey? What do we do in terms of the human aspect? How many cabin staff really think about “those down below” and offer them a cold drink or a smile or even an “hello”?

Motivation: think hot. Think 50°C on the ramp and two more aircraft to go. A break

is everything. Put yourself in the loader’s shoes. Bad, isn’t it? Do you want to go for the break right now or will you do this one more aircraft?

Now imagine that one airline, which all through the heatwave gave out free cold energy drinks, played hip summer tunes in the cargo holds, and where possible cooled down the holds to 20°C just for the loaders. Imagine, this purser or PIC going down with a tray of cooled drinks to the loading crew. A matter of maybe two minutes. Sounds long? Check out the average delay through a lack of motivation in hot temperature conditions.

Or ask me.



From Relations to the ramp

Peters’ background is one of International Relations but he became a ramp agent after his studies because the work had attracted him for years. After two years on the ramp he caught the attention of an airline which hired him in the role of a Process Manager. Today, over three years later, he is responsible for ground operations, load control procedures and leasing processes. Peters has also written several manuals.



It is all about caring, sharing and showing sympathy. I worked on the ramp and have seen it all and experienced it all myself, even if sporadically. I have not seen a culture. I have not seen loaders being included in any company policy consideration.

Let there be one airline that the loaders prefer and believe me, even in the most difficult conditions, loaders will go the extra mile. And more so, because nobody else does it. They will go for the break after this aircraft has departed. The first to jump on this altruistic bandwagon is potentially going to reap huge long term benefits with “the other side” of aviation. It may not be the posh and stylish side – but it’s the one which assures safety. It’s the one which assures the work gets done. Come snow, come heat. Why not pay some attention to that?

This is about long term company strategy to include the loader.

This is about motivation and psychology.

This is about a culture change. **ghi**

LESSONS TO BE LEARNED

THE SWISS CHEESE SYNDROME

A company providing a range of airline ground support services has been fined after an employee fell from a height of more than two metres.

In this incident a ramp worker was injured during the loading of luggage on to an aircraft during the turnaround. The agent actually fell through a gap in the guard rail at the top of a luggage beltloader whilst kneeling upon it to fasten cargo straps; the fall was the consequence of the beltloader being struck by a passing vehicle. A fall of 2.2 metres (7 feet) on to the tarmac below ensued, which resulted in the agent losing consciousness. The worker was subsequently diagnosed with a brain injury, fractures of the skull and cheekbone, together with permanent hearing loss in the right ear.

A Health and Safety investigation found that the handling company had foreseen the risk of a collision between the various vehicles operating in a congested space around the aircraft during a turnaround but had failed to implement measures to guard against the risk of driver error when manoeuvring vehicles around aircraft. The investigation also found that the handler was aware that beltloaders had a gap in the rails between the aircraft and the barriers but that it failed to put in place any meaningful measure to control the risk that someone might fall through the gap.

This sad incident underlines the fact that beltloaders are not steps or platforms – yet they are commonly used as such. Gaps between rails and the fuselage may be inevitable, since beltloaders vary in design. However, what opened up the holes in the Swiss cheese here was the impact from a passing vehicle: had the handler not been exposed on the beltloader, then the outcome might have been different.

And if any reader has a suggestion for preventing a collision between two units of GSE on the ramp, then please get in touch.

KEEP OFF THE GRASS!

An aircraft carrying 180 passengers recently collided with a pushback truck and sustained damage to its engine, fuselage, wing and landing gear.

While being pushed back from Stand 18 at the airport, the aircraft was stopped with the pushback and towbar positioned at a significant angle to the aircraft’s nose. The towbar disconnected from the nose landing gear, and the aircraft rolled forward and struck the tug.

According to the investigation, the pilot became concerned at the direction of travel of the aircraft while it was being pushed out for take-off.

Both engines were started during the pushback,

which appeared normal to the flight crew until, part of the way around the 90° turn to face west, the Captain became aware that the aircraft was close to the edge of the apron.

He duly questioned the situation with the member of the ground crew on the headset and was told that the situation was under control. The aircraft then stopped at an angle to the taxi-way centreline, with its nose pointing towards the grass area beyond the edge of the apron.

However, the aircraft started to roll forward, which the Captain thought was in order to align with the taxi-way centreline; he quickly became concerned about the direction of travel, which was towards the grass, and called the ground crew to stop. There was no reply and to compound the issue, the pilot did not apply his brakes because he thought that he was still being towed. (Operator SOPs dictate that braking under a tow is not advisable since the action can cause damage to the nose landing gear through the tug pushing or pulling against the aircraft brakes).

Shortly afterwards the aircraft stopped, accompanied by an unfamiliar noise which was the underside of the aircraft contacting the roof of the tug cab. After the engines were shut down the airport rescue and fire fighting service inspected the damage and the fire crew informed the pilot that the number two engine was damaged but there was no fuel leak and no need for an evacuation.

According to a report from the ground handling agent, the rainy conditions had played a role in the incident. The handling company stated that the tug driver had had difficulty seeing the taxi line because of the wet reflective surface of the apron and the tug was struggling to move the aircraft because a high gear had been selected. The turn to L3 was made late and the aircraft’s position was closer to the edge of the apron than normal.

Again, a sequence of seemingly unrelated events contributed to an unhappy outcome, with an aircraft in this instance put out of service. Fortunately, there were no injuries occasioned.

TAKING STEPS...

Three passengers were standing on the top of the rear steps, about to board a B737, when the steps suddenly moved and dropped down approximately two feet, as the driver prepared for their removal. Understandably, the passengers had no idea about what was happening and so jumped hurriedly on to the aircraft. One of these was a young boy, whose parents were obviously in a state of panic over the movement. The reporter duly advised the handling agent who in turn spoke to the driver; this latter

LESSONS TO BE LEARNED

replied that the steps had not moved more than a couple of inches. This was irrelevant, for the steps should not have moved at all if there were still passengers on them. The handler was reminded of the procedure. Shortly after, whilst boarding wheelchairs via the ambulift, as soon as the last PRM had stepped on to the aircraft, the handler removed the retractable floor on his lift from the aircraft, leaving a gap of about three feet. This could have been extremely dangerous if any of the passengers, who had just boarded, had stepped back. Again, the agent was advised of the malpractice.

Basic training is at fault here, leaving one to conjecture whether familiarity is breeding a little contempt on the apron.

PUSHING THE BOUNDARIES

In our final example there was a clear lack of adherence to push back procedures by the ground handling team.

During departure of the B787, the ground crew provided positive confirmation that all pre-departure checks were complete. The flight crew then received ATC push and start clearance on stand 19. The Captain stated (as per the OM-A 8.2.2.7) that the aircraft had been cleared to push and start and that the park brake was set. The ground crew did not respond to the request for brakes be released for push. Instead, they responded with "roger". The Captain sought clarity to the

response to which the ground crew's replies were again non-standard or non-responsive: both "roger" and "clear pressurise aircraft" were used. During this time, one or two attempts to push the aircraft with the park brake still set were felt and heard in the aircraft; there was a slight rocking backwards and an increased engine note from the tug. The Captain immediately contacted the ground crew to reaffirm that "park brake was set" and that pushing back could not be attempted until they had instructed the flight crew as per the procedures in the GOM/OMA to release the park brake.

Fortunately for all the parties involved, the attempts to push the B787 were not deemed forceful enough to have been sufficient to damage the aircraft - but they had the potential to, had the ground crew persisted in their manoeuvres.

The push back was finally completed and the tug correctly released.

Do you have a story to tell or an incident to relate that could benefit readers of these pages? Please write to the Editor (alwyn@groundhandling.com), giving details. Names and locations will not appear in any material subsequently used.

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Far left: a weld fracture on a fabricated axle; left, planetary gearing; below, New Age axle destined for the US market



Solutions for a new age

The Editor reports on a British company that is doing good business in the US.

PRM-Newage (or PRM-Marine – it all rather depends upon which sector is important to you) has a somewhat convoluted history. Today, it is a very well-known name on the American ramp, but its products are discreet and rarely sighted. Axles, its stock-in-trade, are not the most conspicuous of addenda, yet are vital for the vehicles that serve aircraft at a host of airports across the Atlantic.

As a GSE component supplier, the company is just over 11 years old although its origins date back to the early twentieth century. The PRM part comprised the initials of its founder, one Percy Riley, the son of Lord Riley of vehicle manufacture

fame. The son majored in transmissions and engines, thereby laying the foundation stones for the current business.

The UK's Midlands, the home of engineering and car building, saw in the 1960s many car manufacturing companies change hands or become absorbed by bigger entities: BMC took over Riley and subsequently discarded the moniker, although Riley continued to make marine gearboxes as well as rudimentary gearboxes for off-highway dump trucks and the like. The acquisition of Newage, a Scottish company making axles, in 1972, was deemed a useful move, for it enabled the company to produce a complete

construction driveline for vehicles.

The construction side of the industry nosedived in 2008 because of stagnation in the housing market, with the demand for off-road machinery all but drying up. New owners, Rob Turner and Colin Howell, stepped in and relaunched the enterprise under the fresh company name of PRM-Newage. "Thankfully the marine side was still buoyant," recalls Turner. "Marine orders kept on coming through but so did the occasional request for axles and gearboxes." The company was (and still is) one of just a handful of axle manufacturers in the UK, it should be noted.

THE HEART OF THE TECHNOLOGY

The key point of the Newage front axle is the fact that it is cast in one piece, this including the all-important trunnion housing. In fact, Newage does away with the traditional kingpin approach to steering, relying instead on a simplified tapered roller bearing within a sealed-for-life trunnion. There's no play to worry about and no maintenance to forget. The fact that the angled housings are cast into the one-piece axle means they benefit from greater strength and are far less prone to the likelihood of fracture, something that has dogged the welded approach to axle construction when it has been exposed to the ramp environment.

Volumes began to grow but as this occurred, Turner decided that he could usefully deploy the inherent axle technology elsewhere: in essence, he didn't want all that tooling to go to waste.

The FedEx breakthrough

Turner remembered a contact he had at FedEx and reprising communication in 2011, it transpired that the latter logistics expert was experiencing problems on the ramp. Simply put, the rear axles on its baggage tugs were constantly in the workshop for repair; ground staff were not helping the situation, either. These were highly stressed units, as might be expected, as the incumbent axle design only featured a double reduction which compromised the axle to a degree. For his part, Turner's set-up comprised a triple reduction by including inboard planetary gearing thereby spreading the axle load across three elements: the transfer box gearing then differential gearing and thirdly, the inboard planetaries. This design also allows standard braking

configurations and standard wheel rim design.

A specification was passed to Newage and it became one of four companies involved in the tender. A six month trial ensued, at the end of which the Newage solution was found to be the most robust; a 12 month trial followed that, and once again the British product triumphed.

Acting on this positive result, FedEx talked to TUG, its tractor supplier, about the wisdom of adopting the Newage cast iron axle; about this time further axles were supplied to both Delta Air Lines and UPS for trial, since they, too, were experiencing longevity problems. TUG duly agreed to their adoption and indeed, its acceptance was also underlined by Charlotte US and NMC Wollard.

The die, as it were, was cast.

But it didn't end there: the success of the Newage rear drive axles in baggage and freight tractors led to the logical next step: the move from tractors to beltloaders was easily achieved, and PRM-Newage began supplying rear axles for this type of GSE.

At the time of writing, Turner stated that anything up to 800 beltloader axles were being sold to the US annually, and the first examples for the TUG 660 beltloader were actually being readied in December 2019.

Steering in a new direction

Turner also made the decision to develop a range of front dead steer axles to complement the rear drive axle range. Using front and rear Newage axles benefits the user and builder as there are many common components used across the two and both use the same design ethos as the rear axle – solid cast iron with not one welded joint. Turner feels that current GSE front dead steer axles are a welded construction which has a fundamental design weakness: the most important thing is the integrity and strength of the unit machined from solid cast iron. However, going down this route does necessitate very expensive five-axis machinery, which is perhaps why there are not too many suppliers about.

Inside the factory

On walking around the Newage premises, this fact is impressed upon the visitor: there are machines of all sizes and types, some extremely expensive indeed. At Newage, very few (perhaps around 5%) components are actually bought in: the rest is manufactured in-house.

"We typically buy in the very simple items or those which we think are too demanding for us to fabricate," explains Turner. "Our outsourcing is actually very limited."



"We typically buy in the very simple items or those which we think are too demanding for us to fabricate"

Rob Turner,
Managing Director



A popular axle from Newage shows the cut-out in the casing for the transfer box

Today the company employs a little over 60 staff and as Turner remarks, given the engineering hinterland of the Midlands, there is no shortage of skilled labour. Just one shift a week suffices for current output although some night work is undertaken, too. Included within the factory is a spray area as well as a test rig and specially constructed test cells where at given intervals axles and gearboxes

are put through their paces. The building now occupied, which comprises around 270,000 square feet, actually dates back to 1972 and is now pretty full; full enough for the MD to be actively looking for larger premises. But it's a tall order, since the immediate region is home to myriad other manufacturing companies. Despite that, Newage sees two 40 foot containers leave the factory each month, with most of the

axle output destined for the US market. It's worth noting that of its £10m annual turnover, the GSE sector now contributes around £5m; the marine side accounts for perhaps £2m, the rest being given over to electric axles.

Electric axles, in short, are a best seller for the company: Newage's neat solution has meant that some 25,000 units have been put into the market over the past 15 years.

And next? For Turner, it's all about developing new markets, and he has Europe firmly in his sights. Initial sales have been made, so now it's a case of building on those.

Axles may not be the most prosaic element within the world of GSE but clearly, a robust product equates to less downtime, thereby quickly negating the slightly higher cost. And cost, needless to say, is something that every handler is focused on today. **ghi**

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ALL ELECTRIC TURN

It has finally happened: the green turn. Late in 2019, a ground handler safely turned a flydubai next generation Boeing 737-800 aircraft using only zero-emission ground support equipment at Dubai International's Terminal 2.

His Highness Sheikh Ahmed bin Saeed Al Maktoum, Chairman of Emirates Group, flydubai and Dubai Airports, said of the event: "Sustainability is a key focus across operations at the Emirates Group, flydubai and Dubai Airports. The UAE is a major global aviation hub, and in line with the country's vision to ensure sustainable development while preserving the environment, we are committed to taking meaningful initiatives and continually challenge our processes to deliver the highest possible value for all of our stakeholders. The green turnaround, involving a collaborative effort from airline, ground handler and airport operator, highlights Dubai's commitment and ability to make a difference by using resources in a sustainable manner."

Handler dnata, which was responsible for the turn, is constantly investing in equipment to improve operational efficiency and reduce its environmental footprint. During the green turnaround, dnata's dedicated team transported bags with electric baggage tractors to the aircraft and applied electric conveyor belts to offload and load baggage and cargo. The passengers of the airline's Karachi and Faisalabad flights were disembarked and boarded through towable passenger stairs. After the boarding had been completed, the ground handler's staff pushed the aircraft back from the gate with an electric towbarless pushback tractor, positioning it ready for taxi and departure. Throughout the turn, the aircraft ground power was provided by Dubai International's fixed electrical ground power facilities.

Green or hybrid options have been around for a while now, and it is encouraging to see the dots finally being joined up on the ramp.



IN BRIEF

Jet Aviation has received the International Standard for Business Aircraft Handling (IS-BAH) Stage 1 Registration from the International Business Aviation Council for its Amsterdam and Rotterdam FBOs in The Netherlands. It intends to achieve IS-BAH Stage 2 Registration for both FBOs by December 2021.



AWARD FOR AUTONOMOUS TRANSPORTATION

A world first in autonomous technology helped a Coventry manufacturing specialist claim a prestigious prize at the Heathrow Clean Vehicles Partnership Awards. Working in partnership with International Airlines Group and British Airways, Aurrigo's autonomous luggage dolly secured the Innovator award for the way it has been helping to potentially reduce emissions and improve efficiencies in getting passenger bags to and from the terminal.

Judges were impressed with the initial results of the first two phases of the trial that has been running at Terminal 5 and the way that the dolly can reduce passenger waiting times, as well as offer a host of environmental improvements. Carrying up to 40 bags in one journey, the driverless dollies use the latest navigating technology to memorise the airfield in order to determine the shortest route to transport luggage. Unlike the current vehicles, they will depart for the aircraft as soon as each one is full, speeding up the aircraft loading process.

Miles Garner, Sales and Marketing Director at Aurrigo, commented: "We are best known for the work we are doing in pioneering driverless pods that are typically used to deliver first

and last mile transport solutions. It was quickly recognised that this technology could be applied to other sectors and we were delighted when we started working with IAG and British Airways on exploring the possibility of autonomous luggage dollies.

"The impressive initial results have been reinforced by the project being awarded the 'Innovator' title at the Heathrow CVP Awards, beating competition from some very impressive innovations in the process. Airports have the requirement to move vast numbers of people, goods, luggage and a variety of other materials around a huge site and autonomous technology can provide the aviation industry with a solution that has zero emissions and massively increased efficiencies."

Chris Garton, Chief Operating Officer at Heathrow airport, added: "We're delighted to trial new technologies that will make our airport more efficient, safe and sustainable. Significant progress is being made with driverless vehicles and these trials will help us provide the infrastructure necessary to be at the forefront of this technology." If successful, the dollies could transport customers' baggage to and from the aircraft by 2021.

AIR OF COMPOSURE

Felicity Stredder presents a selection of some of the more unusual and light-hearted stories from the sector...

In a very civilised fashion, a musician travelling on a Delta Air Lines flight gave an impromptu performance to passengers and crew as a bartering tool in exchange for some room in the congested overhead bins.

The man wanted to stow his violin for the flight, but with all compartments full, a flight attendant suggested he play the instrument for passengers as a trade-off for a spot.

"If you play for us, I will find a space," the crew member reportedly told him. According to US media outlets, the flight attendant announced to the cabin that there would be a "small concert" on board in exchange for some passengers moving their belongings under their seats, in order to make room for the musician's violin.

It was not confirmed whether a space was indeed offered up...

Paying the price

Emergency landings necessitated by disorderly passengers cost airlines dearly – an expense that they usually have to absorb. However, one British man's drunken antics in-flight have cost him more than US\$30,000 after his carrier moved to sue him for some of the costs incurred.

After consuming around six drinks while waiting to board his flight from Calgary to London, David Young failed to comply with safety protocol during take-off, and in his inebriated state, became aggressive towards a fellow passenger and cabin crew. As a result, the Captain was forced to turn back just one hour into the journey – and to dump fuel to ensure the aircraft was light enough to land so soon after take-off.



The 44 year old spent one week at the Calgary Remand Centre before being released on bail and has been barred from re-entry into Canada. He pleaded guilty to resisting arrest and not adhering to safety instructions given by the cabin crew, apologising for his behaviour. What's more, he has also been ordered to pay US\$30,521.10 to the airline to cover the cost of the lost fuel.

WestJet's total bill for the incident including fuel and compensation to passengers could well exceed US\$200,000, it has been reported. The airline is yet to decide if it will pursue a civil claim against Young to recover the rest of the costs.

No funny business

Armed police at Indian airports have been told to cut down on smiling, with officials

partly blaming the 2001 US terror attacks on an excessive focus on friendliness, local media has reported.

The Central Industrial Security Force, in charge of aviation safety, will move from a "broad smile system" to a "sufficient smile system", the *Indian Express* said in a front page report. The move was aimed at making the CISF "more vigilant than friendly", the newspaper said.

"We cannot be over-friendly with the passengers because one of the reasons cited as to why 9/11 happened... was excessive reliance on passenger-friendly features," CISF Director General Rajesh Ranjan was quoted as saying.

Air-craftiness

It seems that light-fingered passengers will take anything that is not bolted down inside

an aircraft. Much like petty theft from expensive hotel rooms by guests keen to recoup their costs, airlines are victim to kleptomaniacal passengers determined to get their money's worth...

Although there are no recent surveys that explore theft from airlines, with airfares frequently an everything-costs-extra affair, travellers seem to be seeking their own compensation more and more.

Among the items taken from commercial flights are coffee cups, silverware, blankets and even lifejackets. Media outlet Skift has observed that passengers were stealing things like pillows and blankets from first class, with United Airlines deeming it necessary to send a memo to flight attendants last year, addressing the "confusion about what products can be removed from a plane at the end of the flight."

The memo asserted that pillows and blankets were not to be taken, continuing: "Even if only a small amount of these items is removed for each flight, that can mean millions of dollars over the course of a year."

Many less tempting items go AWOL from aircraft, too. Airsickness bags, knives, forks, spoons, glassware, and salt and pepper shakers have also been known to do a disappearing act, while stranger snatchings have included warning signs (such as "Life vest under seat") and tray tables.

Yes, tray tables... **ghi**

Have you an unusual story to tell? We want to hear it.

Please send your humorous aviation anecdotes to:
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