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LETTER FROM THE EDITOR

This issue of Airline Ground Services was put together by its team of editorial and commercial staff in time to be distributed in Toronto at the 29th IATA Ground Handling Conference, the premier annual ground handling industry conference. In a world of Facebook, Twitter and Skype, it might seem anachronistic that people still take the time to travel hundreds of miles to meet face to face.

Whether or not US writer Mark Twain ever said that reports of his death were greatly exaggerated when he read his own obituary in a newspaper, the same could be said of industry conferences.

The old ad sales adage is that ‘people buy people’. In terms of conferences, ‘people meet people’. Meeting old friends on stands, or making new friends in the conference hall, are the keys to why businesses still invest time and money in a presence at an international conference. You might even get a juicy order by turning up.

In this issue, we look at Canada, the host country for the IATA Ground Handling Conference. We track down Forsyth Black, the new broom at the head of menzies aviation. Fancy pitching to Finnair to be a new contractor? We show you how.

We consider the current state of play for European ground handlers, two decades after the EU liberalised the market. In 2014, London Heathrow Terminal Two opened with a new approach to baggage handling. Some two years after the opening, we ask how it has worked out.

Alongside this, we have our usual round-up of items that are of interest to our ground handling readers.

We have begun to pack our bags for Toronto. It might be old fashioned, but we still like the face-to-face opportunities such a conference provides.

JAMES GRAHAM
Editor
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<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Editor’s Letter</td>
</tr>
<tr>
<td>4</td>
<td>How Finnair is handled</td>
</tr>
<tr>
<td>6</td>
<td>Pegasus: Turkish delight for Pegasus Airlines</td>
</tr>
<tr>
<td>8</td>
<td>Pegasus workshop</td>
</tr>
<tr>
<td>12</td>
<td>Forsyth Black Interview: new opportunities at Menzies</td>
</tr>
<tr>
<td>14</td>
<td>European ground handlers round-up</td>
</tr>
<tr>
<td>20</td>
<td>Catering: Gourmet dining at 35,000ft</td>
</tr>
<tr>
<td>26</td>
<td>ground.net: New network ideas</td>
</tr>
<tr>
<td>30</td>
<td>Runway queues: Cutting them down</td>
</tr>
<tr>
<td>32</td>
<td>LHR T2: Common use works</td>
</tr>
<tr>
<td>34</td>
<td>Ukraine: $200 million modernisation bill</td>
</tr>
<tr>
<td>37</td>
<td>Zafire: Grounding lost luggage</td>
</tr>
<tr>
<td>38</td>
<td>Toronto and Canada: competitive ground handling</td>
</tr>
<tr>
<td>40</td>
<td>Affini: Internet of Things</td>
</tr>
<tr>
<td>48</td>
<td>Industry update</td>
</tr>
<tr>
<td>51</td>
<td>AGS Directory</td>
</tr>
</tbody>
</table>
From the Emerging Market Experts comes the launch of a brand new ground handling station. NAS launches 16th station worldwide & the 4th station in East Africa.

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Website: www.nas.aero | Email: info@nas.aero
Flag-carrier Finnair makes high demands on its third-party airline ground service providers. James Graham talks to Mikko Tainio, head of ground operations, on how to make the grade as a supplier

**DOING BUSINESS**

Third-party ground handlers enter into relationships outside of Helsinki through a range of pitching, tendering or competition, depending on the station in question. According to Tainio, there are a number of ways would-be suppliers can come forward.

He says: “There are different approaches depending on the destination. In the case of new destinations we try to include all the possible options to the tender process. In the current destinations we try to improve our operational quality and cost level with the current suppliers while still always keeping our eyes open for would-be companies.

“Naturally it is possible to dispense with any supplier if they don’t meet our expectations, but this rarely happens.”

The airline has established a template contract for ground service providers with standardised contract terms. However, Tainio acknowledges there is always some need to adjust the details to match the local operations
where the airline is established.

Tainio leads a well-functioning team of 300 ground handling staff on three continents and several thousand outsourced service partner employees globally. Like most operators in the aviation industry, Finnair faces a range of headaches in securing and retaining trained and professional staff.

He says: “There is a lot of geographical variance; we are seeing a lot of turnover in staff in the US, for example, whereas in Asia we have countries with staff of tenures well over 20 years.

“In Finland we are among the most lucrative employers so getting talent in is not that hard; what we are focusing on is building good career and training paths to keep all the talented employees with us.”

Asia stands as a region likely to see growing need from Finnair for airborne ground services: under its long-term plans, the carrier aims to double Asian traffic by 2020 from the 2010 level.

**LEARNING CURVE**

Tainio has headed up Finnair’s ground operations since June 2015. He came to the post with an unusual background: aviation finance. At Finnair for 11 years, Tainio’s last position as head of Group Business Control Finnair saw him leading change in the demanding airline industry, transforming a legacy airline into being a lean, efficient and competitive operation. By driving, managing and tracking the most substantial profitability enhancement project to date, he achieved cuts of €200m by the end of 2015.

He says: “As my background is more in airline finance and administration there has been a learning curve – but at the end of the day, as with any post, 90% of what you need leadership, a well-functioning team and a huge appetite to put your hands deep into the details when needed!”

The operational performance, with on-time-performance achieving 89.5% in 2015, is absolutely vital, he believes. Without it, Finnair’s heavily banked, transfer-focused traffic structure could not be as successful as it is. Robust processes, active operational steering and partnerships that work well, especially at Finnair’s hub, are key elements in this achievement.

**TRENDS IN GROUND HANDLING**

Finnair’s ground handling activities are reacting to changing passenger practices and desires across the flying public. Tainio’s role is to monitor these developments and tailor Finnair’s offering in ground handling services as appropriate.

He says: “Customers want to customise their journey – the times when the ticket included all services are gone and now a wide selection of ancillary services is valued, be it seat upgrades, lounge access or choice of food. We are increasingly focusing on providing these through digital channels as well as through our ground staff.

“Transparency comes through the customer having a constant understanding of what is happening next and any irregularities; for example, a new itinerary suggestion, or information on luggage delivery, just pops into their mobile device.

“There is an ever-increasing number of self-check-in kiosks and also online, mobile and app check-in possibilities available. Also the automated bag drop has become widely used at Helsinki Airport, with plans to expand to other countries and stations as well.

“Next in line were exploring permanent bag tags as home-printed bag tags – that would enable the customer to skip one step at the airport and go directly to the bag drop.”

**GREEN HELSINKI**

Tainio has ‘ownership and management’ of the Helsinki hub ground operations for the carrier. This reflects the importance the airline places on the station.

He says: “Helsinki Airport and its location is absolutely vital for Finnair, making possible the 24-hour rotations of our Asian wide body fleet and making a huge impact on our customers’ transfer experience. As Finnair and Helsinki Airport continue to grow together, we are making sure that all traffic continues to run at least as smoothly as it is currently doing. When we succeed the impact is growth of our traffic, revenue and – also – Finnair’s and our partners’ bottom line.”

The airline currently operates a range of 52 aircraft, including Airbus A330s, A340s, A321s, A320s and A318s. It also operates Embraer 190s and 170s. Given its icy homeland, it comes as little surprise that its use of de-icing liquid is great. In fact, the airline had a target to reduce anti-icing fluid usage by 40% by 2016.

Tainio says: “The de-icing truck’s proportional mixture system according to the Out Air Temperature for Type-I fluid, and use of alternative de-icing methods such as brooms, hot water and forced air, has reduced the use of de-icing fluids significantly, but actual usage of de-icing fluids depends on the weather. We are also constantly looking for new methods to reduce the need for de-icing fluids.”

The airline also takes a green attitude to its ground handling suppliers, notes Tainio.

He says: “Environmental issues are an important part of the supplier selection process and we demand that ground handlers follow our supplier code of conduct and audit and monitor our suppliers. As such, we do not have exact diversity targets for suppliers, but equality and non-discrimination are foundational values for Finnair and part of our audit programme.”
Pegasus Airlines is a 26-year-old Turkish low-cost airline headquartered in Istanbul with bases at several Turkish airports. When Pegasus Airlines looks to work with third-party ground handlers, it seeks companies that can offer services at several of its destinations both domestically and internationally. Murat Demirbilek, vice president of ground operations, says: “Having a regional representative for ground operations means we can easily implement any changes as necessary through them. We have contracts and SLAs with different companies across different airports that can offer the highest standard of service quality for Pegasus guests.”

Pegasus currently self-handles all its aircraft at Istanbul’s Sabiha Gökçen and Izmir Adnan Menderes stations. This accounts for 50% of its network. As of June 2016, it will provide ramp services to its aircraft at Sabiha Gökçen.
Demirbilek says: “Our mission is to offer safe, efficient and proactive ground operations at a time when we are experiencing fast growth above our projections; as any operational delay can create a domino effect that affects the on-time performance on our entire network. One of the most significant contributors to our on-time performance is our ground handling time, which we call PITSTOP, and which is our main key performance indicator (KPI).”

The airline currently has a fleet of 69 aircraft and operates scheduled flights to 103 destinations in 41 countries.

Demirbilek says: “When we’re launching a new route, we initiate and establish a relationship with ground handling companies. We strongly believe that competition improves service quality. We place great value on building strong long-lasting relationships with our current partners.”

20 MINUTES

The carrier seeks to achieve top-of-the-tier punctuality and operational performance among competing airlines in matters such as aircraft punctuality and luggage left behind.

Demirbilek observes: “This is of paramount importance to us. In our stations across Turkey we provide our ground handling services in just 20 minutes. We’re also the only Turkish airline to publish its on-time performance openly on its website and have been for many years. What lies behind our success is our strategic planning based on conditions, close monitoring, supporting and investing in our personnel, investing in technology and as managers, always being with our colleagues on the ground.

“We have check-in kiosks in 12 of our domestic destinations for quick self-service check-in. At Sabiha Gökçen we recently deployed 30 SITA new-generation kiosks, helping us to cut the time spent at check-in. We will soon also be introducing ‘bag tag’ functionality to enable our guests to print their own tags. These new features will allow our guests to spend less time in queues and at counters, and allow us to use the counters in the terminal more efficiently to prevent them from being stretched to near capacity.”

PEGASUS WORKSHOP

Pegasus Airlines has just held its two-day 3rd Pegasus Workshop, aimed at examining and resolving ground handling issues at the Turkish low-cost carrier.

See our report on Page 8.
A two-day workshop was staged by Pegasus Airlines to examine and resolve ground handling issues at the Turkish low-cost carrier. The event, held in Istanbul, allowed the airline to meet with third-party and in-house ground handling operators.

Among executives who took workshops at the event were: Murat Demirbilek, vice president ground operations, who opened the two-day gathering; Nilgün Pekel, manager, baggage service; and Deniz Saltık, manager, contracts and network auditing. Topics covered included: mishandled baggage; on-time performance; and the power of social media.

The theme of the workshop was an evaluation of 2015’s operational performance. Almost 200 management-level participants attended from 37 international and 31 domestic stations. Participants were mainly handling company managers and GSAs.

Demirbilek opened the workshop with a look back at Pegasus’ 2015 operations, giving an overview of the issues that concerned him and how can the airline help the passenger checking, baggage and ramp handling process.

The speakers outlined issues relating to a number of topics that were important to the airline such as: DCS, social media impact, on-time performance, safety and emergency response, CRM, contract and network auditing and, lastly, mishandled baggage.

Mishandled baggage is a big concern as it costs Pegasus almost £1 million annually. A disgruntled passenger spoke of her negative experiences in resolving an issue with her daughter’s damaged suitcase.

WHY HOLD AN ANNUAL WORKSHOP?

Why does Pegasus feel that it is important to hold an annual workshop? Senior vice president Bogac Ugurlutegin is straightforward. He says: “It is a chance for us to bring our staff and all our ground service providers together to discuss the issues that we as an airline face and how we can work together in addressing them which is not only in our interest but also our service providers.

“We want all our partners around the world to feel part of the Pegasus family. The workshop also gives a chance for our partners to tell us how we can improve or help them; this is our way of supporting them.

“The workshop is not just about us telling the ground service partners
THE RIGHT CHOICE FOR A PERFECT SERVICE!

More than 200 reputable airlines prefer the standardised, high quality ground handling that is provided by Havaş at 32 stations around four countries.
what we are not happy with, it works both ways – we want to know how we can help them in establishing a better working relationship. We as an airline understand how important it is that our ground service providers feel part of a team and we are all working together to provide an excellent customer experience; we have to remember that by outsourcing the ground services at different airports they [the ground service providers] are an important part of our operation as our passengers are not aware that they are not the airline.

The workshop also gives Pegasus’s partners a chance to tell the airline how it can improve its performance or help them. Partners can update Pegasus on new reporting procedures, new systems that are being implemented and how everyone is doing on KPI targets. The airline also shares data about aircraft damage, baggage damage and lost customer complaints.

**AWARD SCHEME**

Pegasus has an awards ceremony, rewarding high standards of service. The awards are presented at a glittering gala at the end of the two-day workshop. Ugurlutegin says: “We want to reward the best-performing stations and we have done this by annualising the data, that’s how we decide on who gets the awards.”

**Best Excess Performance**
- Doha (DOH) Qatar Air Services
- Hatay (HTY) Celebi Aviation
- Stuttgart (STR) Stuttgart Ground Service
- Izmir (ADB) Havas A.S & Pegasus

**Best On-Time Performance**
- Izmir (ADB) Havas A.S & Pegasus

**Best Baggage Handling Performance**
- Tbilisi (TBS) TAV Urban Georgia
- Mus (MSR) Havas AS

**Best Document Performance**
- Bergamo (BGY) AGS Handling
- Sabiha Gökçen (SAW) Pegasus

**Best Station 2015**
- Konya (KYA) Havas A.S
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At the start of 2016, the departure of Jeremy Stafford from his role as John Menzies CEO opened the door for Forsyth Black to quickly move into the role of president and managing director of Menzies Aviation. **James Graham** asks, where will he now take the worldwide ground handler?

The exit of Jeremy Stafford after just 15 months in post as CEO of John Menzies for personal reasons gave the former Menzies Distribution managing director Forsyth Black the chance to step up to the plate as managing director of Menzies Aviation with immediate effect.

Stafford had left just a few weeks after Menzies issued a profits warning following problems with its ground handling contract at London Gatwick. In the event, the company satisfactorily concluded negotiations over contractual issues and trading was brought in line with forecasts. The company remained confident of meeting expectations for the full year ended 31 December 2015.

This slight bump in the road failed to dent Black’s confidence on arrival in post as president and managing director. He says: “My focus is on driving our business forward in the ground handling and cargo sectors, ensuring we meet the highest standards in safety, security, quality and consistency along the way. I’m very excited about the opportunity I’ve been given. I’m in it for the long haul.”

Black’s promotion comes some two decades after EU liberalisation of ground handling services. There are many working in the European ground handling industry who have only worked in the liberalised environment. Whether the move has worked is for others to say. Black, however, is clear on how he sees the competitive environment in 2016. He says: “It’s vibrant, which is great. Menzies Aviation welcomes competition; it keeps us honest and pushes us to be on our best game. While the industry has seen some torrid times during the global recession, it’s still indisputable that the 20 years since the European market...
opened up have coincided with a huge boom in air travel.

“I still see Europe as a growth area, and I relish the challenge of competing for our slice of that growth over the next few years.”

CAREER MAN
Edinburgh University graduate Black’s career at Menzies began more than a decade ago when he joined the Scottish firm from an unlikely source. He had previously worked for four years at broadcaster Sky Television.

Since joining in mid-2003, Black has worked for both the ground handling and media distribution arms of the business.

He says: “My career has been defined by taking new opportunities – I launched our ventures in Africa and India – so I’m fundamentally a glass-half-full person. I see opportunity everywhere, and I’m optimistic about our prospects for this year and beyond.”

Menzies Aviation is a global provider of passenger, ramp and cargo handling services. It has grown rapidly since its conception in 1995. Through a combination of organic growth, acquisitions and the development of niche opportunities, it has established itself as a major force in the international ground handling industry.

Operating at 149 stations in 31 countries and supported by a worldwide team of more than 21,000 people, it serves over 500 airline customers handling over 1.0 million flights and 1.6 million tonnes of cargo per annum.

STAFFING ISSUES
Many companies in the sector are aware that changing demographics in many markets are leading to a crunch in the availability of suitably trained professional staff. Black is no different in acknowledging the biggest challenges in recruiting for ground handling, and he knows how he can overcome this.

He says: “As the global economy recovers, and we move closer to full employment, it becomes harder to secure the right people to push our business forward. We’re not alone in having this problem, and there are no easy answers. We need to be smarter in the way we approach recruitment, we need to cast our net wider, and we need to look harder in order to find our candidates.”

In Europe, at the same time as liberalisation in ground handling occurred, the low-cost carrier (LCC) also arrived just as the EU was expanding. Elsewhere in North America and Asia, established legacy carriers were suddenly confronted with game-changing competition. This created a new generation of passengers, often flying on aircraft with no cargo, who wanted flights at the cheapest possible fares.

Ground handlers, too, were confronted with a new way of working. No cargo to load, fastest-ever turnarounds, shifts in on-board catering and a new business environment meant handlers had to change.

Black says: “LCCs have had a huge impact on the way we do business. They’ve driven us to build a business around managing concentrated volume at big airports. It’s a challenging environment, but it has pushed us to find process improvements and adopt new technologies in order to meet that challenge.”

FUTURE PROOFING
How do you future proof a company like Menzies Aviation? Black considers a straightforward approach is best. He says: “Our future proofing comes from the portfolio nature of our business. By spreading our operations across a truly diverse base – multiple airports, countries, customers and products – we give ourselves sufficient breadth of interests to weather what turbulence may appear in any one area.”

One growing area of interest to many people both inside and outside of the industry is the issue of a ‘green’ airport. Black is tuned into concerns and will point Menzies towards a greener future. He says: “It is very important. As stakeholders in global aviation, we all have a responsibility to set the tone with respect to the environmental agenda. We can see technology emerging now which helps us move toward a greener apron, and indeed we already operate equipment such as electric pushback trucks in various locations. As the available devices advance in sophistication and reliability, our adoption of them will increase accordingly.”

Just a few months into his new role, Black is already shaping Menzies for the future.

“Put simply, I’m excited about the future,” he says. “I am committed to driving up quality and standards in every part of our business, until Menzies Aviation is the undisputed benchmark for excellence in our industry. In the days ahead, I’ll be completely focused on bringing that vision to life.”
Since 1997, the provision of ground handling services in the EU has been covered by Directive 96/67/EC. This was introduced to open up ground handling services to competition, ending the existing monopolies that kept prices high and service standards low.

As an indication of how much has changed in the European Union and the wider aviation market since the directive was signed, when ink was put to paper there were only 15 member states and the Euro was two years in the future.

Since then, there has been free competition for the majority of ground handling services at larger EU airports, resulting in more choice for airline customers. In turn, improved service levels, including sharper and quicker turnarounds, allow airlines more freedom to consider passing on savings to passengers and freight forwarders.

With some of the world’s busiest and more intense airport operations, ground handlers may not find a totally free market. Member states may limit the number of suppliers in certain service categories, such as baggage handling, ramp handling, fuelling and freight services. In these cases, the minimum number of suppliers has to be two and at least one of the suppliers has to be independent of the airport or the dominant airline at that airport. Some airlines choose to self-handle, with similar rules on competition applying.

Airline Services Handling is a UK ground handler offering various services including full ground handling, aircraft de-icing, cabin cleaning and dressing, exterior washing and interior cabin works such as carpet manufacture and seat cover replacement, and with operations at 12 UK airports, says managing director Nigel Daniel. In November 2014 and for the first time, the company moved into passenger and baggage handling at Gatwick Airport.

Observing the competitive environment in European ground handling, Daniel sees a mixed story. He says: “Competition is not good in southern Europe as even where it looks like it meets the regulations, this is hiding issues. In northern Europe, it has driven down cost below breakeven and so trashed the quality in many airports and with many handlers.”

This year, Daniel is pleased to anticipate strong demand for the company’s activities. However, in certain areas of the business, such as aircraft presentation, competition issues mean it will be very hard to trade profitably. He says: “2016 will be a major challenge to make a profit in aircraft presentation due to the above. Demand is good, until the real price is offered to make a margin and then demand drops from many airlines.

According to Daniel, Airline Services, which provides a range of servic-
es to, among others, Monarch, Emirates, United, Turkish Airlines, EasyJet, British Airways, Lufthansa, Air Malta, Air Baltic, Aurigny, Ryanair, Flybe and Thomson, is typical in experiencing issues in recruiting high volumes of staff: “It is very challenging in many areas of the UK especially with the recent growth of the automotive industry and large scale on line sales distribution” he says.

‘ICE BREAKER’
Poland was not a member state when the directive was signed. However, earlier competition had been introduced into Polish ground handling, making the eventual implementation of the directive much simpler. That is the opinion of Tomasz Szymczak, a member of the board of Warsaw-based Welcome Airport Services.

Szymczak says: “The EU Directive 96/67 has been successfully implemented in the so-called new member states without major obstacles as some competition had been introduced already earlier. Our company was formed in 2000 as Warsaw Airport Services – from 2013 as Welcome Airport Services. It was the ‘ice-breaker’ at WAW Chopin Airport, creating duopolistic competition replacing the earlier monopoly of LGS (now known as LS Airport Services).”

At present, there is competition between Welcome and LS at John Paul II International Airport Kraków (KRK), Gdansk Lech Walesa Airport (GDN) and Katowice International Airport (KTW). For five years, at WAW Chopin Airport, there have been three main players: Welcome, LS and Lithuanian handler BGS.

Szymczak says: “In general, the Directive created quite a liberal, open market situation in ground handling which was, in fact, the goal of the document. It did not envision one consequence – the openness of the EU market to strong players from the Gulf and Turkey who are aggressive economic players on European turf. This is especially problematic for established ground handling companies in the EU, such as Turkish competition at Budapest Airport (BUD) or Riga International Airport (RIX).”

GEO-POLITICAL DEVELOPMENTS
Szymczak’s general business confidence is positive, though there are geo-political pressures that are creating issues for ground handlers, especially in Poland. Confidence is neutral in the legacy and low-cost part of Welcome’s business and rather pessimistic concerning its charter flight operations. This is due in part to Arab Revolution instability in southern Mediterranean countries, especially Tunisia, Egypt and Turkey.

He says: “These used to be popular summer destinations for Polish tourists. Now the drop (Jan 2016 compared to Jan 2015) is 95% in the case of Tunisian destinations.”

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of Tunisia and around 70% in both other countries.”

In general, Szymczak is seeing an ongoing push for lower rates, especially from low-cost players, stability with some improvements among legacy carriers and also growing cost awareness among the Gulf carriers, which is a relatively new phenomenon.

Welcome’s airline clients across its stations include Wizz, IAG, AFKL, Emirates and easyJet. The handler is facing issues in attracting operational personnel, especially at the lower ranks. There is a more stability at upper echelons but pressure for better remuneration is ongoing, comparable to the situation in Western Europe, considers Szymczak.

He is of the opinion that after 20 years of existence and several unsuccessful developments, the directive is in need of revision. It is especially important that the regulation must reflect the open nature of modern EU business.

EUROPEAN AND GLOBAL
Since EU ground handling deregulation took place, there have been considerable changes in the ground handling market with ongoing opportunities to tap into new countries and stations. That is the opinion of Simon Messner, Swissport senior vice president ground handling Europe West, Central and East.

He says: “Driving innovations in key areas and standardising processes are main factors for Swissport to deliver the highest quality to customers, such as on-time departure and short baggage delivery times.”

While Swissport serves more than 200 million passengers worldwide and is present at major airports in 48 countries, the ground handling market will further develop in Europe over the coming years.

Messner says: “For Europe we observe a growing number of turnarounds and consequently a stable demand for ground handling services. Further outsourcing will support this trend. It will be key to have global solutions with standardised processes and exchange on a daily basis with the customer to drive efficiency and quality.”

Overall economic growth in the industry is positive for 2016, supported by continued low oil prices, strong demand for travel, and increasing capacity. The airline industry saw a good year in 2015 in terms of profitability and return on capital, he considers. However, there is some uncertainty given the political and economical turbulence in some regions, implying uneven traffic development and business across airlines and countries.

RETHINKING SERVICES
David Hiersche, managing director of Vienna-based ISS Ground Services, is of the opinion that the ground handling industry is in a state of flux at present, with the new rules being formulated as the market evolves.

He says: “In my opinion the ground handling market and the services will change. In some cases we have to rethink our services and the prices we offer. Tailor-made solutions will become more and more important, which forces more flexibility on the one hand and leads to more complexity in the business.

“Airlines need to distinguish what they pay for a specific service and what is included in the service. Services and the single prices behind a flat-rate pricing structure need to be more transparent. This would give airlines the possibility to adjust the services to meet the requirements and show them the possible savings.”

Twenty years after the signing of Directive 96/97/EC, Hiersche notes mixed levels of competition in the market. He says: “It depends on the airport you are providing services at. In some cases competition is driven by pricing. Airlines try to decrease their costs by reducing services or force their suppliers to provide the same services for a cheaper price. In this situation the competitors are destroying their price structure, which reflects less investment and negative results in their P&L.

“In other cases there is not enough volume for multiple companies providing the same services. For example at regional airports with fewer than 2 million passengers, the daily volume does not cover the costs of two or three providers. And then there are special cases where hardly any competition exists. The local top dog, like the airport provider itself, restricts access for any independent service provider who would like to offer services but cannot compete due to local restrictions.

“As an example, consider the pricing for facilities and infrastructure, which is sometimes not transparent, and the start-up costs, which are very high. A lot of money needs to be paid for office/warehouse rental which does not meet the requirements or even current standards – no air conditioning, old buildings etc – but there is no other option as these are the only facilities available for independent service providers.”

ISS provides ground operations at four Austrian airports as well as international stations. Its main business is aircraft cleaning (interior as well as exterior).

Hiersche says: “Due to the increasing numbers of low-cost carriers, the requirements have changed. Many airlines are reducing transit cleaning or have cancelled it to decrease their turnaround times and costs. Night-stop cleanings, in these cases, became more and more important, which gives us better staff planning opportunities and therefore better pricing options for the customer.”

ISS’s major clients are Austrian Airlines, NIKI Luftfahrt, Eurowings EU, Germanwings and Celebi Ground Services Austria GmbH. It is responsible for the transit and night-stop cleaning of Celebi’s customers at Vienna International Airport.

Elsewhere in Austria, Swissport International and Flughafen Graz have launched a joint venture: Swissport Cargo Services Graz. It offers a wide range of cargo services and is set
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COMPETITION IS HIGH
BGS (Baltic Ground Service) is a provider of ground handling, aircraft fuelling, liquid ADR logistics and training services as well as IT solutions. The company operates in Lithuania, Latvia, Poland, Russia and Ukraine. BGS supports both domestic and international air carriers in Vilnius, Kaunas, Palanga, Riga, Warsaw, Krakow and Katowice, as well as Ramenskoye, Boryspil, Kiev, Odessa and Lviv airports, handling over 2.4 million passengers and 12,700 flights annually.

In 2008, BGS became the first in Europe and one of 10 world ground handling companies to be awarded with the ISAGO safety and quality certificate for ground handling services. The company is also a member of IATA's Ground Handling Council (IGHC) and an ISO 9001:2008 certified organisation.

Gytis Gumuliauskas, CEO of BGS, says: “Competition in the ground handling market is as high as ever. Without any doubt, the EU Directive adopted back in 1996 played a significant role in the process, but it is not the only factor. The ever-growing low-cost airlines have also contributed to higher competition in the GH market, as airlines of all types are pushing their costs down, forcing ground handling providers to constantly search for new price optimisation and added-value solutions. This includes development of various IT solutions for more accurate scheduling and resource planning, integration of LEAN methods, investment into personnel training as well as more flexible price rates for airlines serviced in several different airports by the same provider.

“Price is not the only factor in the competition since quality and safety of services remain highly important for the carriers. After all, ground handlers service passengers on behalf of a carrier, meaning that poor service levels will most likely result in passenger complaints and thus impact the carrier’s image. All in all, airlines definitely benefit from the current market competition, while for ground handlers it means a constant struggle for process optimisation and development of new services while ensuring a high level of safety/quality and flexible price levels.”

TRUST
In the ground handling market, Gumuliauskas says: “We are delighted to have our customers’ long-lasting trust which is reflected by a strong demand for our ground handling services in current airport as well as the continuous growth of our annual traffic.

“It is no secret that the aviation industry is rapidly growing, and the shortage of experienced specialists is a topical issue not only for airlines, but for any other industry employer as well.

“We are delighted to have our customers’ long-lasting trust which is reflected by a strong demand for our ground handling services”
Gytis Gumuliauskas, CEO, BGS

“Luckily for us, we are able to retain, motivate and offer our staff such working conditions as help us to minimise personnel defections. However, when it comes to business expansion, finding a qualified specialist may become a true challenge. One of the ways to support business development is to train our own, new ground handling talents who become skilful and loyal professionals afterwards.”

BGS services key international and regional airlines such as Aeroflot, Air Berlin, Air France, Alitalia, DHL, easyJet, EL AL, Etihad Airways, flydubai, Lufthansa, Norwegian, Small Planet Airlines, Turkish Airlines and Wizz Air.

NORWEGIAN WOOD
Aviator and Norwegian Air Shuttle are to extend their ground handling service contract at London Gatwick until October 2020, and include Manchester Airport (MAN) in the same agreement.

The move follows negotiations which commenced before Christmas 2015. Norwegian’s award comes at a time when the airline is increasing its operations at LGW with about 20% more flights. Following the decision Aviator will also take over Norwegian at Manchester Airport as from 1st May 2016. Currently, Norwegian has a daily service to any of the three Scandinavian capitals from MAN with a plan to increase these services.

Vanessa Branch, Aviator service delivery manager responsible for the Norwegian operations in the UK, says:

“I am very proud of the hard work and dedication of the Aviator LGW team, which has gone a long way to help secure the Norwegian contract. Everyone should be very proud of their achievement.”

VIRGIN WIN
Cobalt Ground Solutions was formed on 1st April 2009 by the merger of two ground services subsidiaries of Air France and KLM in the UK – formerly Air France Services Ltd (AFSL) and KLM Ground Services Ltd (KGS). With a strong team of around 700 staff, it offers ground handling services at London Heathrow Airport Terminal 3 and Terminal 4 to a large portfolio of airlines.

Its most recent win has been ramp, baggage, and lost and found services for the Virgin Atlantic Airways LHR Terminal 3 operation. The handler currently offers below-wing services to Delta Air Lines and Japan Airlines at LHR.

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For the vast majority of passengers airline food is the bland pap served on scheduled flights. For the world’s super-rich elites, airline food can be something else entirely. David Smith tucks in

GRANDS CHEFS
Legacy carriers that hang on to full, silver service menus for first and premium passengers tend to opt for headline, celebrity chefs to craft meals to complement the considerably higher ticket prices demanded.

Airlines can now spend as much as US$50 a person serving signature dishes from celebrity chefs to their first and premium passengers. Likewise, the wine menu can often cost an airline the same. Unlike coach passengers, first class and business class passengers often think about an airline’s food. Managers know that airlines can certainly lose a customer by offering a poor menu.
For instance, on Air France flights departing from Paris, meals crafted by Joël Robuchon, Régis Marcon, Guy Martin, Anne-Sophie Pic and Michel Roth are available. Their signature meals alternate every two months so regular passengers have something new to discover. At the same time, the airline’s wine list is updated every two months.

On flights provided by Air France departing from Los Angeles, New York and Washington and travelling to Paris-Charles de Gaulle, for a full year from March 2016, dishes have been created by Daniel Boulud, the renowned US-based Michelin-starred French chef. His flagship restaurant ‘Daniel’, listed as one of the top 10 restaurants in the world, is acclaimed for its cuisine and service. "Daniel Boulud brings creativity and soulfulness to dishes based in French technique and enlivened with global flavours and spices," said the airline.

On long-haul Lufthansa flights from Germany, top chefs create dishes for the ‘Culinary Delights’ concept in first class. These chefs, who change every two months, belong to the top rank of the gourmet world and have all been awarded Michelin stars or Gault Millau toques. The German carrier also uses celebrity chefs, such as Diethard Urbansky, to create its menu.

Qantas has stayed with the same executive chef for 15 years. Neil Perry AM is an Australian chef and restaurateur who is the co-ordinator for Qantas Flight Catering under his company Rockpool Consulting.

In 2013, British Airways asked chef Heston Blumenthal to make umami a key ingredient in his attempt to add more flavour to first class and premium British Airways menus to counter the fact that passengers lose about 30% of their ability to taste as a result of extremely dry cabin conditions and high-altitude pressure inside airplanes.

Umami is an ingredient known as
the ‘fifth basic sense’ after its discovery by the Japanese scientist Kikunae Ikeda in 1908.

DEMANDING CLIENTS
For charter and private aviation, catering for premium and first class service is a more bespoke, smaller scale operation than the legacy carriers.

In the US, three catering companies dominate this market. There is the pioneer in the field, New York-based Rudy’s Inflight Catering, Silver Lining in Florida and Air Gourmet, which has kitchens in both Los Angeles and Las Vegas.

Meanwhile, in the UK, On Air Dining is a relative newcomer that has established itself in a remarkably short time.

Barry Saven, the South African-born president of Air Gourmet, says there are no limits to the challenges set by clients and the critical element in the success of his business in this niche is flexibility. “We are dealing with very privileged people and they can order animal parts that our chefs have never even heard of,” he said. “I had a Middle Eastern prince who wanted a white truffle sauce on his mashed potatoes and we couldn’t get fresh white truffles anywhere in the US. I had to get someone in Paris to source them and put them on a plane as unaccompanied luggage. A driver met the plane at LAX airport and brought it to the kitchen by which time we had a short time to prepare it. It cost a ridiculous amount of money, but he didn’t care.”

Barry Saven, President, Air Gourmet

Hollywood’s movie stars are capable of making demands for meals that no ordinary mortal would contemplate eating. One renowned movie ‘tough guy’, who cannot be named because of the tradition of discretion in the luxury catering market, ordered a rattlesnake steak. “We worried for a moment that we wouldn’t be able to find it, but we sourced it in 20 minutes, had it delivered in 20 minutes and cooked it so it was ready an hour after the order came in,” Saven said.

Air Gourmet’s kitchen facilities are found at the intersection of two major Los Angeles freeways and a street away from Beverly Hills, home to actors and celebrities. Almost any ingredient can be sourced in LA at short notice by the logistics team and delivered by the fleet of Air Gourmet vehicles. Deliveries arrive at all times of the day or night.

“Our chefs work 24/7 and I don’t even have a key to the front door as it’s never shut. Rather than having 10 chefs on duty, which is normal, we might have only two in quiet periods, but never less. When we get highly complex orders, we might call people in on their days off.”

Air Gourmet started life in 1990 as a small business run by a former flight attendant. Saven saw the potential for growth and bought it in 1996. At that stage, Air Gourmet catered for 10 flights a day and now it caters for an average of 60 from its two bases. The nature of those flights varies widely. “One order might be for orange juice, an LA Times newspaper and yoghurt on a short flight from Las Vegas to Los Angeles. Another could be a highly complex order for breakfast, lunch and dinner for a plane load flying to Europe, or Asia. That might involve 10 chefs working all day to complete it. The value of a flight ranges from as little as $200 to in excess of $100,000.”

Air Gourmet guards its reputation for quality food carefully. Whereas Air Culinaire Worldwide uses third-party local kitchens under its own name, Air Gourmet only puts its name to food cooked fresh in its kitchens. It does, however, have an affiliation with both Silver Lining, in Florida, and Rudy’s, in New York. All three companies recommend using their partner caterers on their home territories.
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CATERING | GOURMET DINING

The UK’s On Air Dining has become an unofficial member of the network and Air Gourmet advises its clients to use the Stansted Airport-based British caterer when they fly to London. This is a great mark of respect for a company that only began trading on October 1st, 2014.

On Air Dining’s clientele is similar to Air Gourmet’s. They are the unimaginably wealthy. “Ultra-high net worth individuals are defined as having £5-10 million in cash at their disposal. But most of our clients are even wealthier,” said Charlie Robinson, COO. “We cater for some of the richest people from Britain and around the world.”

London-born chef Daniel Hulme was the inspiration behind On Air Dining. Hulme had experienced luxury dining while employed as a chef at Scott’s of Mayfair and later he catered for the wealthy elites holidaying in Juan Les Pins in the South of France. But it wasn’t until he worked for some of the sailing teams in the Americas Cup in Valencia in 2007 that Hulme realised there was a gap in the market for a luxury caterer.

“He saw the niche because the food being served to the wealthy yacht owners on their private jets was of such a low standard,” said Robinson. “The catering companies thought they could buy a 40p Brakes chicken and throw on a coq au vin sauce, then charge £30 just because it was a private jet. Daniel saw they were getting a bum deal and decided to bring fine dining to the market.”

Hulme approached Alison Price Catering with the idea of starting an aviation wing. They liked the idea and Alison Price On Air was formed, which lasted four years. Hulme then decided to break away and formed On Air Dining in October 2014. Growth has been rapid. The company started with seven employees, but now it has 30 and it is only a couple of months away from being profitable. In March this year, it served 584 people on 131 flights. The average cost was £900 per flight.

MICHELIN-STARRED
Like its American counterparts, On Air Dining relies on highly trained chefs. Most have worked at Michelin-starred restaurants. The chefs use the technique of ‘sous vide’, a method of cooking that seals food in airtight plastic bags and places them in a steam cooker for longer than during normal cooking. “All restaurants use it for some parts of the menu, but we have taken ‘sous vide’ to another level by making sure all proteins and vegetables are tender and full of flavour and ready to be frozen and portioned out,” said Robinson.

On Air Dining has its own fleet of branded vehicles delivering the food from its 3,500ft² kitchen in the Diamond Hangar at Stansted, to airports all over England and Wales. It is packaged to make it easy to cook in steam ovens, microwaves, or conventional ovens. From there, the food is eaten mainly on flights to the Middle East, Europe, Russia and the US.

The menus have a classical French bent, but clients can choose what they want. All food is prepared in a way that conforms to the science of cooking at altitude. “It’s known that food loses 50% of its taste because of dehydration and air pressure affecting your taste buds and sinuses. So we use more salt and exploit the umami factor,” said Robinson.

Having established itself as the main British caterer for the super-rich, On Air Dining has expansion plans. “We’ve grown a phenomenal amount quickly and we now want to establish a network around the world. It depends how the model is taken up, but one option is to partner local providers and to make sure they serve the high-quality food that is hard to find in most places.”

“Ultra-high net worth individuals are defined as having £5-10 million in cash at their disposal. But most of our clients are even wealthier,”

Charlie Robinson

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NEW NETWORK IDEAS

ground.net is the first network for ground handlers, not based on any equity basis, able to provide local expertise aligned with the possibility of offering economic incentives with respect to multi-station deals. Airline Ground Services caught up with Dieter R. Streuli, ground.net board member and CEO of Airline Assistance Switzerland, and Mary Jovic, ground.net sales and marketing manager.

Tackling the challenge facing regional, independent ground handling providers in competing with industry global players was the main driver behind the formation of ground.net. Its purpose is to create access to a professional European network and to offer customers a wide range of multi-station network deals where tailor-made solutions to individual customer requests become standard throughout the network.

That is the assertion of Dieter R Streuli, ground.net board member and CEO of Airline Assistance Switzerland. He says: "Furthermore, it is also very important to us as members of ground.net to learn from each other and to join our forces to improve our operational processes. Transfer of best practice is the name of the game."

The new concept is for a strong partnership between local European ground handling providers combining local expertise, connections and flavour with international presence and the possibility of additional discounts for 'network customers'. Within the partnership, members share the network, knowledge and synergies.

Streuli says: "Doing it the 'old' way doesn't allow us to enjoy those benefits. In addition, in the 'old' days ground handling networks were either huge corporations that were able to offer network deals to potential customers, or loosely associated ground handling companies. The latter were using such an association mainly for marketing reasons but without the ability to provide a network incentive model in an economical sense."

In Streuli's view, this was the main reason why such loose associations were not long-lasting entities and therefore not able to provide a real alternative to..."
the large ground handling companies.

ground.net is the first network, not based on any equity basis, able to provide local expertise aligned with the possibility to offer economic incentives with respect to multi-station deals. This enables it to compete with the ‘big ones’ in the ground handling industry, notes Streuli. He says: “The success of our co-operation is confirmed by the fact that we were able to win several acknowledged airlines as ground.net network customers over the last couple of months. We believe this is only the beginning and the co-operation will successfully grow in the future.”

PROCEDURES AND KNOWHOW
Not only do ground.net members benefit from a wide network: customers do, too. When a customer is happy with a certain station, procedures and knowhow can easily be transferred to any of its other stations. This ensures an efficient and time-saving process for the customer when choosing a new ground.net station.

Quality standards ensure that an experienced ground.net team always accompanies a customer when starting up at a new station. The team trains and prepares the employees and ensures a smooth start-up by giving the customer the certainty that experienced staff are on hand and initial problems and questions can be solved quickly, not only on a management level but even more often on a ramp staff and passenger service agent level.

ground.net has implemented several start-ups where a couple of experienced head-loaders from AeroGround Munich assisted the ramp staff in Zurich for several weeks and showed them the necessary procedures including client specific requirements. Similar training workshops have been conducted with GH Italia experts for all possible areas of activities, such as, passenger service, cleaning services or planning.

EXPERTISE
Each of the members has specific expertise in ground handling. One example is Aviator in Scandinavia, which is an expert in de-icing services – while Greek handler Goldair Handling has recently won the GSE Safety Innovation Award. AAS is definitely the champion in resource planning and has recently developed a revolutionary new planning concept together with experts from the Swiss Federal Institute of Technology in Zurich.

Streuli says: “By sharing our best practice among all members, we transfer our knowledge to all our stations. This is done either with basic ground handling standards, such as ISAGO,
but also with specific airline know-
how, such as working out standardised
multi-station service-level agreements
(SLAs) for customers.

“The close co-operation has a direct
impact on the enhancement of our qual-
ity standard. The transparency between
the members allows us to gain knowl-
edge and thereby raise the standards in
a very effective and cost-efficient way.”

ASSOCIATION
ground.net does not have membership
fees as it is an association with the aim
of sharing knowledge and synergies,
creating sales and marketing activities
as well as intelligence and support. It
also aims to develop best practices for
common ground service equipment
procurement.

Mary Jovic, ground.net sales and
marketing manager says: “We share
marketing and other expenses. But also
in this regard we all highly benefit from
ground.net by presenting each other to-
gether at ground handling conferences
and joining our forces in other market-
ing measures.

“Our meetings mostly take place
in a member’s office. It is important
to maintain close co-operation in or-
der to promote a partnership most
effectively.”

Membership is open to regional
providers of ground handling services,
irrespective of the country or territory.
New members are chosen which strate-
gically make sense to join the alliance.
Jovic says it is a challenge to balance
the right set-up and mindset of poten-
tial members and on the other side to
eliminate a potential concurrence situ-
ation with each other.

She says: “A new member should
expand our network with additional
stations with the focus on the custom-
er’s needs. For us it is crucial to grow
together with our customers than just
grow for the sake of being present in
as many places as possible. The best
way for us is when an airline asks us
to add one of their ground handlers to
our network.”

GROWTH AMBITIONS
Expansion from the current membership
number is not a priority, says Jovic. She
says: “Expansion is not our main target,
but yes, we would like to cover some
further parts of Europe. We are in the
lucky position that we already have
several ground handlers approaching us
by expressing their aim to join us.

“As already mentioned, growth is
appreciated but it has to be a qualita-
tive growth and not simply a growth in
numbers.”

The business topic **du jour** in the
United Kingdom – Brexit – is not trou-
bling ground.net, says Streuli. He con-
siders: “If Britain should leave the EU
the impact on ground.net would not be
substantial. But to be honest, we focus
on our expertise, ground handling, and
let the politicians do their job!”

“It is also very important to us as members of ground.
et to learn from each other and to join our forces to
improve our operational processes”

Dieter R. Streuli, board member, ground.net and CEO,
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FEATURE | RUNWAY QUEUES

CUTTING DOWN QUEUES

Model that predicts time from gate departure to take-off could cut airport congestion, fuel waste and wasted time on the apron

Frequent fliers are familiar with long lines at airports: at the check-in counter, the departure gate and when boarding a booked flight. Even after passengers are buckled in, the waiting may continue — when an aircraft leaves the gate, only to sit on the tarmac, joining a long queue of flights awaiting take-off. Such runway congestion can keep an aircraft idling for an hour or more, burning unnecessary fuel.

Engineers at MIT (Massachusetts Institute of Technology) have developed a queuing model that predicts how long an aircraft will wait before take-off, given weather conditions, runway traffic, and incoming and outgoing flight schedules. The model may help air traffic controllers direct departures more efficiently, minimising runway congestion. For example, if a controller knows that an aircraft is unlikely to take off for half an hour, they may choose to keep the plane at the gate to avoid contributing to runway back-ups.

Hamsa Balakrishnan, an associate professor of aeronautics and astronautics and engineering systems at MIT, says that in tests at various US airports, the model encouraged controllers to hold flights back during certain times of day, leading to significant fuel savings.

Balakrishnan says: “In our field tests, we showed that there were some periods of time when you could decrease your taxi time by 20 percent by holding aircraft back. Each gate-held aircraft saves 16 to 20 gallons of fuel, because it’s not idling. And that adds up.”

Balakrishnan and former graduate student Ioannis Simaikis have published their results and are working on airports across the United States to further test the model.

HOW LONG UNTIL TAKE-OFF?

A number of factors can contribute to airport congestion, which can create nose-to-tail traffic jams among departing flights. In 2007, Balakrishnan analysed departure operations at John F Kennedy International Airport, Newark Liberty International Airport and Philadelphia International Airport, and showed that these hubs were congested 10 to 20 percent of the time. At Newark, passengers travelling during congested periods experienced average runway taxiing times of 52 minutes, versus 14 minutes during less busy periods.

Balakrishnan says individual decisions on when planes push back from gates can contribute to the problem.

She says: “It’s mostly on the fly. Sometimes, if there is a controller with a lot of experience or intuition, they might actually decide they’ll hold aircraft back. Historically, though, they don’t, they just let everybody go. Which is why you have queues of 40 aircraft waiting at the runway. And you want to avoid that.”

To prevent extended runway queues, Balakrishnan and Simaikis developed a model to predict taxiing time. The model consists of two modules; the first calculates an aircraft’s travel time from the gate to the departure runway, taking into account any interactions with other arriving and departing flights. For example, if a controller knows that an aircraft is unlikely to take off for half an hour, they may choose to keep the plane at the gate to avoid contributing to runway back-ups.

Balakrishnan and former graduate student Ioannis Simaikis have published their results and are working on airports across the United States to further test the model.

The model factors in a number of
inputs, including visibility conditions, pushback times of departing flights, and runway configuration, and determines outputs including the number of take-offs every 15 minutes, the total number of aircraft taxiing out, the number of aircraft waiting in line for take-off, and how long an aircraft will likely have to wait before take-off.

READYING FOR DEPARTURE
Balakrishnan and Simaiaikis tested the model using data from the Federal Aviation Administration’s Aviation System Performance Metrics database, which contains pushback times and take-off times for every flight departing from 77 major US airports. The database also includes runway configurations and local weather conditions at each airport.

The team used 2011 data from Newark Liberty to train the model, then used the model to predict airport congestion and the length of take-off queues, using pushback times from 2007 and 2010. The researchers found that the model’s results matched actual data from both years, predicting the length of queues, plus or minus two aircraft.

Balakrishnan says the queuing model gives air traffic controllers accurate predictions of what airport congestion would look like if they took certain actions, such as continuously pushing planes back from the gate. Controllers can then use these predictions to adjust their pushback times to avoid runway back-up.

Balakrishnan said: “If you predict only 10 aircraft are likely to take off in the next 15 minutes, you probably don’t have to release 25 aircraft from the gate. Ultimately, you want to find the right number of aircraft you need to be releasing in order to make sure you don’t have a huge amount of congestion on the ground, and at the same time you’re not starving the runway.”

In addition to Newark Liberty, the team has tested the queuing model at Boston’s Logan International Airport, LaGuardia Airport in New York, Charlotte Douglas International Airport in North Carolina, and Philadelphia’s airport. So far, results suggest that the model may be easily implemented in departure procedures — a crucial goal, as the nation’s aviation system is expected to experience widespread congestion in the coming years.

“In 2022, there’s going to be system-wide congestion, and the belief is [that] most of the benefit of airport operations management is going to come from some sort of departure metering,” Balakrishnan says. “What you need in order to do departure metering is a way to predict what’s actually going to happen, and use that to meter. So we’re building the models to help us achieve that.”

This research was supported, in part, by the National Science Foundation.
COMMON USE WORKS

The first flight to arrive at the new Terminal 2 at London Heathrow was United Airlines flight UA958 from Chicago, landing at 5:49am local time on 4 June 2014. With it arrived a new approach to baggage handling. Some two years after the opening, how has it worked out?

The new Terminal 2 was described as “the next step” in the transformation of passenger service at Heathrow by owner Heathrow Airport Limited. It was a $3.5 billion project and marks the latest phase of a $15.5 billion private sector investment that has transformed Heathrow for passengers. This investment includes the construction of Terminal 2 A and B, Terminal 5 A, B and C, a new control tower, and the refurbishment of Terminals 3 and 4.

The new Terminal 2, named ‘The Queen’s Terminal’ in honour of Her Majesty Queen Elizabeth II, is made up of 118,000 individual pieces of equipment – from light fittings to escalators – and manned by 24,000 staff from 160 organisations. In trials, some 100,000 bags were passed through the Terminal 2 baggage system, with peak loads tested at 4,000 bags per hour compared to an expected peak of 2,500 bags.

Airtline Ground Services caught up with Simon Scoggins, project director Terminal 2 – Heathrow, Star Alliance and Yannick Beunardeau, global head of sales and marketing for Airport Solutions, Amadeus. They describe how the common use approach is working.

IN GENERAL, THE GOAL OF A COMMON USE APPROACH WAS TO ENSURE A SEAMLESS AND MORE EFFICIENT AIRPORT EXPERIENCE FOR ALL PASSENGERS. HOW HAS THIS IDEA MATCHED UP TO REAL-WORLD EXPERIENCE?

Simon Scoggins, project director Terminal 2 – Heathrow, Star Alliance: Our common use approach at Heathrow Terminal 2 has indeed proved very successful. We can say that the implementation of the new concept has been a success for our member airlines and passengers alike. Customer feedback shows a high degree of satisfaction.

Yannick Beunardeau, global head of sales and marketing for Airport Solutions, Amadeus: At Amadeus we are very happy with the way the terminal has worked out. We have a fully functioning terminal that facilitates the smooth flow of customers through the airport even in peak periods, and allows passengers to check in and drop a bag within an average time of 70 seconds. Collaboration has been crucial to this success. Working through any issues as a group of key stakeholders and having a single common goal has enabled us to deliver the terminal we have today without jeopardising operations.

WHEN YOU HAVE HAD HICCUPS, WHAT HAS CAUSED THEM?

Simon Scoggins: A high volume of passengers at peak times has caused some issues, just as in any airport or customer service environment. However, one of the benefits of the multi-airline check-in approach is the ability to process a large number of passengers very quickly, so the T2 approach has actually dealt with peak volumes at peak times more effectively than a traditional operation. Also, T2 is the first terminal in the world to adopt self-bag tagging on a large scale. As such, there was an unforeseen issue caused by the number of bag tags being issued from each of the check-in kiosks. Basically, printers were jamming too regularly and taking the kiosk out of use until it was fixed. Arinc, the supplier of the kiosks, worked hard with stock suppliers, airlines and ground handlers to make design changes such that we no longer experience this problem.

Yannick Beunardeau: I think in the past there has been a concern that self-service meant no service but gradually the travel industry has altered its perspective on this and we are pleased to see passengers embracing this and actively participating in the pre-departure process.

PASSENGERS CAN USE ANY SELF-SERVICE KIOSK OR ANY BAG DROP TOUCH POINT IN ONE OF THE FOUR CHECK-IN ZONES. HOW HAS THIS WORKED IN REALITY?

Simon Scoggins: Like with any new system, there is of course always a learning curve. By ensuring that there are enough staff on hand to guide the customers through the system, we have been able to ensure a smooth implementation. We placed emphasis on those flights where we know that customers would not be used to this high degree of automation. Interestingly enough, exactly those airlines who at the beginning were apprehensive about their customers accepting the self-service check-in concept, are now using their London experience to drive more automation both at their home base as well as at other airports. Although passengers have to use a bag drop from their airline’s zone, they can actually use a kiosk from ANY zone. This has helped greatly at times of peak volume as over-demand in one zone can be served through the adjacent zone.

WHAT PERCENTAGE OF PASSENGERS DISLIKE/REFUSE TO USE THE KIOSKS? HAS THIS VOLUME OF ‘REFUSENIKS’ BEEN IN LINE WITH EXPECTATIONS?

Simon Scoggins: All passengers travelling on an Economy ticket are encouraged to use the kiosk and only those who can’t complete their check-in there for a regulatory or technical reason are able to go straight to a traditional check-in desk. Feedback is mainly positive. There are a small number of passengers who don’t like the self-service approach. However we have heard feedback from a number of passengers who were initially sceptical, but actually liked the process once they had been through it.

Yannick Beunardeau: I think in the past there has been a concern that self-service meant no service but gradually the travel industry has altered its perspective on this and we are pleased to see passengers embracing this and actively participating in the pre-departure process.

THE NEW PROCESSES, SUCH AS ISSUING COMMON BAG TAGS, SPEEDS UP THE DEPARTURE EXPERIENCE AND CUTS DOWN QUEUES FOR PASSENGERS. IT IS CLAIMED TO PROVIDE PASSENGERS WITH MUCH MORE CONTROL OVER THEIR JOURNEY. HOW CAN QUICK CHECK-IN EMPOWER PASSENGERS?

Simon Scoggins: The process allows customers more choice and control; they can decide to take the opportunity of checking in before getting to the airport and thereby saving time, or do everything in the airport as in a traditional check-in approach. As check-in is a prerequisite for every passenger, the less time they spend doing it, the better. They are empowered by having more time after check-in to use as they please.
– relaxing, shopping or eating.

**Yannick Beunardeau:** The fact that passengers can use any self-service kiosk or bag drop touch point in our common check-in zone rather than having to wait in their own airline’s queues speeds up the pre-departure process, meaning they have more time to enjoy the airside airport facilities before boarding their flights. This very traveller-centric solution also provides travellers with much more control over their journey, allowing them to have as much or as little interaction with the airport staff as they wish. However, at Amadeus we see improving the customer experience as a continual process, and in particular see baggage drop as becoming more self-driven in the future.

**HOW DIFFICULT WOULD IT BE TO ADD OR SUBTRACT AN AIRLINE FROM THE SYSTEM?**

**Simon Scoggins:** Removing an airline is not an issue. Adding has more facets, as the new carrier(s) must be able to offer all the relevant mobile products, have the necessary applications to support common check-in and adopt the commercial and operating model in place for ground handling.

**CAN YOU PROVIDE SOME BEHIND THE SCENES INSIGHT FROM THE GROUND HANDLING FIRM USING THE SYSTEM?**

**Simon Scoggins:** After a little familiarisation, staff are comfortable with this new way of working. It takes skill to be able to serve passengers from several different airlines in consecutive transactions, but once an agent is familiar with the processes and systems, they are able to deliver a quality service to all passengers.

**ARE PEOPLE COMING FROM ANY OTHER AIRPORT TO STUDY WHAT YOU HAVE DONE AND TAKE AWAY LESSONS?**

**Simon Scoggins:** We are indeed looking at what we learned in London in order to improve the check-in process at other airports, such as Tokyo Narita, Sao Paulo Guarulhos in Brazil and Los Angeles.

**CAN YOU EXPLAIN HOW THE COMMON USE TECHNOLOGY BEHIND THE SOLUTION PROVIDES THE ABILITY TO CHECK IN SO MANY PASSENGERS FROM SO MANY DIFFERENT AIRLINES ON ONE SYSTEM IN A CONFINED AREA?**

**Simon Scoggins:** The new system allows the agent to ‘toggle’ or ‘tab’ between the various airlines’ check-in or departure control systems, just like someone using a home computer might tab between applications. This way they can check in customers from various airlines without needing to log on and off again.

**Yannick Beunardeau:** This project required a complete reconsideration of the traditional model of passenger processing. Previously, check-in was a full service: passengers queued to get their boarding pass, find out about any delays and spent time wayfinding. At Terminal 2, Amadeus’s cutting edge common use technology is based on Altea DCS. It removes location restrictions and allows Star Alliance airlines to use a single Altea DCS interface to check in customers and print bag tags with their own branding.

**IF THE AVERAGE NEEDED PER PASSENGER TO CHECK IN AND DROP A BAG IS 70 SECONDS, WHAT IS THE QUICKEST TIME POSSIBLE?**

**Simon Scoggins:** The lowest recorded transaction time we have for one passenger to drop one bag is 20 seconds.

**Middle East Airlines ground handling (MEAG) is your premiere ground handling specialist in Lebanon.** Serving airlines at Rafic Hariri International Airport Beirut since 1997, MEAG coordinates all your ground handling requirements to ensure your aircraft and crew’s operational needs are not only met but exceeded.
Andriy Pyvovarsky, the minister of state agency Ukraine Infrastructure, responsible for ground handling industry development, is clear: reform is an acute need. The current situation in the Ukrainian ground handling industry remains complex, mainly from the continuing economic crisis in the country. The recent decision of the Ukrainian government to close its domestic airspace to Russian airlines has resulted in serious losses for Ukrainian ground handling providers, the majority of which specialise in the provision of ground handling services to Russian companies.

According to Pyvovarsky, at the heart of the reform is the ending of the monopoly in ground handling activities at Ukrainian airports and the creation of increased competition in the industry.

The majority of ground handling services in Ukraine have been provided by airports themselves or the companies affiliated with them. This resulted in the setting of ‘overstated’ tariffs for the services and the implementation of discriminatory measures in regard to airlines.

However there is a possibility that such a situation will change in the near future as the Ukrainian government plans to restrict the current domination of monopolies in this field.

In addition to this, reforms will...
also involve more active adoption of Western standards in the provision of ground handling services. This will be aided by the attraction of Western experts.

As part of these plans, a delegation from London’s Heathrow Airport recently visited Ukraine with the aim to share with some local ground handling providers several new methods of aircraft ground handling. According to John Hamshare, Heathrow airside policy and oversight manager, during its visit the delegation shared de-icing best practices, which could be applied to Ukrainian airports.

**IT SPENDING**

It is planned that part of the funds will be allocated for the modernisation and further development of IT infrastructure at Ukrainian airports, which should ensure the provision of high-quality regular services in the field of ground handling.

Due to the current financial crisis in Ukraine, some local airports have recently announced plans to move towards outsourcing ground handling services to private operators. For example, such plans have been recently announced by Kiev’s Borispol, the largest airport in Ukraine in terms of passenger traffic. According to state plans, implementation of the reform should be finally completed by the end of 2017.

In the meantime, the latest state plans have already been welcomed by some leading Ukrainian experts in the field of aviation. According to Yuriy Solonchuk, director of Ukraine International Airlines (UIA), the flag carrier and the largest airline of Ukraine, all Ukrainian airports with passenger traffic of not less than 2 million per year should provide a base for at least three companies specialising in the provision of services in the field of ground handling. This should create conditions for increased levels of competition in the industry.

Sergei Kaduchenko, a former director of the department of development of new markets for UIA, and one of the leading Ukrainian experts in the field of ground handling, comments: “Inflated prices currently remain the main problem of the Ukrainian market of ground handling services. At present cleaning even of a small aircraft with a vacuum cleaner may cost about $200 and prices continue to grow. Each Ukrainian airport currently has its own monopoly in the field of ground handling.”

Implementation of the reform should help to partially solve these problems; however, much will depend on how the economic situation in Ukraine develops, he says. ☎️
Enhancing, Developing and Innovating: Grounds for Success
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Despite concerted efforts by IATA and its member airlines, mishandled bags are still costing the aviation industry in excess of US$2.6bn every year. In addition, in June 2018, IATA's Resolution 753, aimed at reducing the mishandled bag count even further, will become mandatory. Are we, as an industry, ready to consolidate and embrace these changes to gain real operational and performance benefits?

While full implementation of IATA’s Resolution 753 – covering accurate inventory of passenger baggage – is still more than two years in the future, a key trend for 2016 is solutions that cover the end-to-end journey of a bag. In an attempt to make that journey more efficient and easier to administer, the convergence of technologies has seen the multiple systems used in the day-to-day operation of baggage handling move to a single data source baggage management solution.

UK-based Zafire, which specialises in developing and implementing software for the aviation industries, has seen this in the shift to standard technologies for baggage messaging, the adoption of permanent bag tags, and the ability to integrate with sortation and x-ray scanners.

SOFTWARE SOLUTION
Chris Beling, commercial director for Zafire Aviation, says: “Zafire’s FirstBag reconciliation system has been available for more than a decade. During this time, and in line with industry needs, wants and future requirements, year-on-year improvements have been made, evolving FirstBag from a baggage reconciliation system into an end-to-end baggage management solution.

“As a fully web-based solution designed to handle large-scale data volumes, FirstBag is unique and ahead of the game, ready for new messaging trends and the introduction of low-cost Android handheld scanner technology, making our solution freely available across the globe.”

Once the end-to-end process is established, and there is wider deployment of mobile devices for passenger use on flights, the demand to provide up-to-the minute baggage information, including alert triggers, carousel information, bag release information and the improved customer service experience for mishandled and repatriated bags, will inevitably increase.

EARLY DEPARTURES
This year sees another innovative application for FirstBag. Developed in partnership with Qantas and its IT solutions partner Zafire Aviation, this pioneering application is now being used in Qantas’s live environment and has improved the loading operation of an aircraft at the airport ramp. With real-time updates sent directly to the load manager and instant access to the latest information at all times – using a pictorial view of the load area – the manager simply clicks a button to clear the flight. This all happens using an Android or iOS device and invites the ramp manager to sign off the loading process electronically, making certain the final load is signed off safely and enabling the aircraft to leave on time – or earlier.

The saving on clearance time and accuracy of information is substantial, taking valuable minutes off the flight readiness time. Qantas’s goal was to guarantee the timely departure of the aircraft, but early indications suggest that the cargo doors are now closed much earlier than before, ensuring on-time or early departures that benefit everyone.
s the most populous city in Canada, and the fourth-most populous city in North America after Mexico City, New York City, and Los Angeles, it is no surprise that Toronto has a world-class international gateway. Last year, the city’s Toronto Pearson International Airport surpassed 40 million in annual passenger traffic, making it the first Canadian airport to do so.

At just around 35 million in population, the vast country has many empty spaces and long distances and relatively few international airports. Airports at its main cities, such as Vancouver, Edmonton, Calgary, Toronto, Montreal, St John’s and Halifax are served by a relatively small range of airline ground handlers. Not all handlers operate at all airports. Handlers are made up of a mix of global players – such as WFS and Swissport – and domestic operators such as Strategic Aviation of Kelowna, BC and Jazz Aviation ground handling.

The Canadian ground handling market is very competitive, with high GSE and labour costs. That is the observation of Mark Brown, president and CEO of Strategic Aviation. He says: “We enjoy success because we focus on our people and adapt to the needs of the airline. The big ground handlers focus on the large airports, and we find success in the tier two airports mainly. We have grown from six bases to 21 in three years, so opportunities are out there.”

Strategic Aviation currently handles Air Canada, Jazz, WestJet, Encore, Sunwing, Air Transat, Air North, Delta and Porter at Kelowna, Penticton, Castlegar, Victoria, Vancouver, Yellowknife, Whitehorse, Fort St John, Fort McMurray, Grande Prairie, Edmonton, Calgary, Regina, Brandon, Winnipeg, Ottawa, Montreal, Saint John, Fredericton, Halifax and St Johns. The company is seeing growth in the sector at present, Brown notes.

He says: “We offer ATW [above the wing], BTW [below the wing], de-icing, GSE maintenance and catering. We are mainly BTW, but over the last year we have been seeing more and more combined services above and below. For our Sky Cafe operation, we offer warehousing and trucking for airline catering and contract out the food preparation to reduce our costs and simplify our service.

“We like to say that we are the largest Canadian-owned and operated ground handling company in the world. While most Canadian-owned ground handlers are regional, we are proud to be coast to coast. On April 1 we opened five bases to handle Air Transat catering, followed by Delta Airlines ground handling in Victoria April 4 (above and below wing) and Delta in Vancouver on April 15 (BTW plus wheelchair handling). Our next big initiative is to be ISAGO certified by 2017.”

ALL THAT JAZZ

Marnie King agrees with Brown that the ground handling market in Canada is very competitive. Historically, the majority of ground handling providers in Canada have specialised in BTW services, with only a few offering ATW services. King is director of airports at Jazz Aviation.

She says: “There is a demand for ATW expertise and experience – a niche that Jazz Aviation is well positioned to fill. As the largest regional airline in Canada, operating approximately 600 daily flights, we understand the importance of operating safely, efficiently, and in a cost-effective manner. We have a team of experienced professionals deployed across many Canadian airports, ready to deliver a full range of airport services.”

Jazz Aviation is a Canadian regional airline based at Halifax Stanfield International Airport in Nova Scotia. National flag-carrier Air Canada is its sole customer under a Capacity Purchase Agreement (CPA) that is set to last until 2025.

Jazz Aviation ground handling currently provides third-party ground handling services to the following airlines:

• United Airlines – ATW and BTW services in London, ON and Victoria, BC.
• Air Transat – ATW and BTW services in Victoria, BC, and ATW service in Kelowna, BC.
• Sunwing – ATW services in North Bay, Sault Ste Marie, and Wind-
Jazz Aviation offers above and below the wing services at two airports – London, ON and Victoria, BC. King says: “We are providing both services to our contracted airlines at these airports.

“Above the wing is our dominant product, offering check-in and gate management, ticketing, customer assistance with self-serve products and irregular operations, special needs handling, and baggage services.”

Nationally, the airline offers ground handling in eastern, central and western Canada. Airports covered include Gander, Deer Lake and Goose Bay, NF; Charlottetown, PE; Moncton and Saint John, NB; Quebec City, Rouyn-Noranda, Sept-Îles and Val d’Or QC; Thunder Bay and Windsor, ON; Fort McMurray, Grande Prairie, AB; Regina and Saskatchewan, SK; Yellowknife, NT; and Whitehorse, YT; Penticton, Prince George, Terrace, BC.

The worldwide growth of low-cost carriers, with their particular needs for ground handling activities, is changing the face of Canadian aviation and presenting opportunities for Jazz, notes King.

She says: “We see some growth in the Canadian ground handling market, with new low-cost airline entrants. These are usually concentrated at Canada’s large airports.”

CONFERENCE
The 29th IATA Ground Handling Conference (IGHC), from May 15 to 18, has a theme of ‘Enhancing, Developing and Innovating: Grounds for Success’.

The IGHC is the premier annual ground handling industry conference. In 2016 the event is hosted by Air Canada (Platinum Sponsor).

Workshop topics include: GSE Innovation To Reduce Aircraft Damage; Partnership for Quality; Passenger Process; Preparing the Front Line Personnel for Crisis Communications in the Age of Social Media; ISAGO New Generation; Passenger Handling; and Working Together for a Safer Apron.

Shifting Gears Smoothly?
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Much has been cited about the ‘Internet of Things’ (IoT) and its impact on improving the passenger experience. This article shows that there is huge scope for productivity improvements, cost savings and capacity enhancements at airports through wide-spread IoT deployment. We start with some background on IoT in general and then focus on airports.

THE WORLD OF IOT
There is much discussion about a world of connected machines. This is sometimes called machine-to-machine (M2M) or the Internet of Things. Most agree that there is huge potential in connecting machines, but it is a vast and diverse marketplace and there is much confusion as to what it entails and how it will materialise.

A first step is to differentiate diverse areas of the marketplace. One key differentiator is whether the system is really just a remote control for a machine (eg setting the home heating system from a smartphone when away from the home) or whether it is divorced from any person and is a machine reporting on status (eg a dustbin notifying a database it is full). The remote control market is typically handled through cellular, Bluetooth and Wi-Fi and is already established and growing quickly as evidenced by demonstrations at key consumer and trade conferences such as the Mobile World Congress.

Wide-area, machine-oriented solutions form the bulk of the interesting new areas. These are machines sending readings to a central database or computer that can take action – such as sending an electricity bill or scheduling a garbage truck. So it is not really “machine to machine” but rather sensor to database. This may seem pedantic use of semantics but there is an important point here that there is little reason for one “machine” – by which we generally mean a device such as a smart meter - to talk directly to another. Equally it is not really an Internet of Things. The Internet implies an interconnected network where my computer can access information on your computer. Instead, typically, only the “owner” of the machine, such as the electricity company, will be able to access its readings and communicate with the device. It is more like the “Intranet of Things” where connectivity is restricted to self-contained groups rather than the “Internet”.

So a connected machine in this sense is a device that communicates over a wide area network to its owner’s computer system. This enables the computer to take appropriate action such as re-planning schedules. Boring, but incredibly valuable.

THE IDEAL GROUND HANDLING SYSTEM
Ground handling is critically important to the airline industry but it also has to run at the lowest possible cost. The ideal system would understand everything that needed to be at the ramp for the aircraft to arrive and depart and the times that it would need to arrive there. The implementation of A-CDM across some airports, the provision of well-structured interfaces between an airport’s AODB and the ground-handlers RMS will assist in the timely delivery of the correct equipment and people at the right stand at the right
As airports become more complex and airlines become more demanding, there is always room for improvement — reviewing physical operational practices is one area, implementing technology is another.

Based on real-time information as to the aircraft arrival, (revised) stand / gate location, additional ramp operation requirements and GSE demands, being fully informed on the location of assets and people, understanding the up-to-date journey time to reach the assigned stand, responding to last minute requests (such as de-icing or additional bussing) a better informed and integrated system would ensure that the correct assets were en-route and available at the optimal time. Tugs/tractors and towbars, buses, stairs, baggage carts, cargo dollies, ULD’s, GPU’s and even staff – all trackable and therefore managed effectively.

Airport operators or authorities are also realising the benefits of telematics data and airside activities. Security, GSE parking, emissions and traffic studies are all key areas that can be better managed and understood with the provision of IoT data.

There are challenges in implementing such solutions. The installation of telematics and RFID devices will differ across the wide range of ground handling equipment and vehicles. These require radio solutions that enable multi-year battery life. The rules to determine specific actions, based on information provided, will need configuring across resource planning and maintenance applications.

**FIRST STEP - PROVIDING WIRELESS COMMUNICATIONS**

An IoT system comprises three elements:

a. A sensor to monitor some state (e.g. location).

b. Wireless connectivity to send the information from the sensor.

c. A central IT system that accepts the information, processes it and acts accordingly.

The largest problem to date has been the wireless connectivity. IoT devices typically need wireless systems with 10 year battery life, cost of a few pounds to install and operate and excellent connectivity. However, they do not need high data rates, handover or even, in some cases, two-way communications. A number of radio solutions to meet these requirements have been developed and are now available from suppliers such as Sigfox (represented in the UK by Arqiva), Semtech/LoRa and NWave/Weightless.

Quite who will drive airport IoT deployments is not entirely clear. With different systems deployed by some airlines, some airport companies and by the airport owners in the provision of voice and data services, a lack of clarity creates the need for
leadership and clear strategy from the airports themselves.

So what is specifically required? It is the deployment of a few base stations around the airport, including basement areas. Typically, the same sites that are used for a private voice radio system today will be suitable as will the masts, so all that is needed is to install additional equipment. This is often only the size of a home router and the antenna will also be relatively small and light. It may be possible to use the same backhaul connectivity that already exists, multiplexing the IoT traffic onto the link. These base stations are often less than £5,000 each so the total installation costs might be less than £50,000 depending on the work needed.

SECOND STEP: AGREEING ON STANDARDS FOR THE DATA

Standardisation is a key component to simpler integration of data into multiple systems. ICT standards are a key enabler to its inherent success. Aviation is no different in adding its own layer of ‘standards’ from Type B messaging (another debate) to AIDX, Baggage XML, CUPPS – the list goes on. For every process there will be a standard. IATA are attempting to ‘consolidate’ these standards with their Simplifying the Business and Airline Industry Data Model’s (amongst others). So why do we have standards? IATA themselves have put it quite succinctly:

- Increased consistency of definitions and format: Enforcing strong methodology ensures that all data is modelled according to the same rules. Concentrating all industry data definitions in one repository accessible to all promotes re-use and increases the consistency of resulting standards.
- Faster development of new standards: Re-using existing industry definitions, data and process models speeds up the development of new standards as well as modifications of existing standards.
- Streamlined deployment of new standards: Standards developed using the same methodology and the same data repository are consistent. Users need to learn only once and then apply the same knowledge in multiple deployments.
- Breaking down of silos: Integrated data model gives visibility across business areas and the possibility of re-use motivates the users to collaborate and maintain common views and structure across business areas.

This model shall be further developed across the industry. What is the rationale behind this edict?

- Safety (security) – data collection for airside notices / incidents (AIN/AON), runway incursions
- Space utilisation – recognition of GSE plant being utilised (and by whom) and subsequent issues regarding capacity / parking / storage. Understanding this would enable the airport authority to better manage expensive airside real-estate.
- Traffic studies - what are the popular airside routes? Where is more traffic management required?
- Emissions. The ability to better report on actual traffic, vehicle and fuel type. Following the analysis of this data, more reasoned arguments for switching fuel types may be demonstrated. In association with the traffic studies, better routing options may also be put forward to reduce emissions.

STEP THREE: ACTING ON THE DATA

What about when things don’t go to plan? A last minute change in the schedule, airside incidents, equipment failures. To react to these incidents, you need correct and up-to-date information about where your equipment is and what state it is in (noting there is a link here with asset maintenance mentioned later).

With the correct real-time data available in a consistent format, managing incidents can become much less stressful and communication to other stakeholders is quicker and more precise.

STEP FOUR: PREVENTING ASSET FAILURE

Asset life: Procure, register, define depreciation model, maintain, renew / dispose. Let’s look at the main triangle...Just sit back and wait for the maintenance cycle to come around and book it into the workshop. But when is the right time? When does that cycle come around? Basic calendar and usage planning has its place – noting that usage / cyclical planning is only as good as the data received. Telematics will provide more accurate data as to the (ab)use of equipment, low levels of fluids – even tyre pressures. Thereby enabling better scheduling of maintenance and resource planning.

This takes us into the realm of predictive maintenance and optimised Asset Management. Tangible results of integrated asset management (and the systems therein – ref ISO 55001) are increasingly being proven. Easy to say, but it can be a complicated and timely exercise and differing assets will require the appropriate level of system to manage it. Managing data from telematics is part of the equation.

STEP FIVE: LEARNING FROM EXPERIENCE

As data on operations is collected we can optimise use of assets, routes driven, shift patterns and much more; as well as learning from situations where remedial action was needed. To do this we need to get the data into a single database where analytics can be performed. But
As data on operations is collected we can optimise use of assets, routes driven, shift patterns and much more; as well as learning from situations where remedial action was needed.

there are 100’s of vehicles producing multiple messages of varying content over many days. This equates to a lot of data to be managed. Where will it reside and for how long should you keep the raw data. Analysis will be required as to the physical (disk) space required. Over time this will equate to many terabytes of data. That may not sound much in today’s world of 2TB laptops – but it still needs managing as it grows.

Once we have the data, what is the right thing to do with it? The use of information of message brokers (SOA – Service Oriented Architecture) is the norm for integrated systems. The implementation of a standard message protocol as previously stated is a key-enabler in the effectiveness and deployment ease of this technology.

Once the basic data component has been received, it may go straight to a receiving application for ‘rules-based’ interpretation and decision making. Many systems will have a rules-based engine that ‘simply’ requires populating - do not underestimate the effort required to complete this task. You may also (read should) wish to perform some further analysis on this data for further rules based decisions / reporting / dash-boarding. We now approach the realms of business intelligence, on-line analytical processing (OLAP), Big Data, data mining etcetera and the software tools to manage it.

SUMMARY
There is much hype around the IoT – and for good reason. It promises to transform our world and airports are well placed to be some of the first beneficiaries. A well designed IoT solution could both dramatically reduce delays caused by logistics failures and improve productivity and gate throughput. Implementation requires multiple skillsets from radio planning through standards development to IT implementation. But with the right team assembled timescales and costs can be low and rewards very high.

ABOUT THE AUTHORS
Daryl and William work for Affini, a company providing consultancy, project management and managed services predominantly in the aviation sector. Affini have a presence in most UK airports and have previously managed projects such as the separation of UK airports from BAA, the introduction of new baggage handling systems at Heathrow and the provision of radio services across multiple major airports.

Daryl Spires is a Managing Consultant in the Aviation Practice for Affini. He has extensive international experience in the design and delivery of ICT – particularly within the aviation sector.

William Webb is Head of IoT Consulting at Affini. He was one of the founding directors of Neul, a company developing machine-to-machine technologies and networks, which was formed at the start of 2011 and subsequently sold to Huawei. Prior to this William was a Director at Ofcom where he managed a team providing technical advice and performing research. He has worked for a range of communications consultancies and spent three years providing strategic management across Motorola’s entire communications portfolio, based in Chicago. He was IET President 2014-2015.
The aviation industry generates vast quantities of data from a multitude of different sources: everything from passenger rosters and flying history, customer relationship management (CRM) databases, baggage handling systems, aircraft performance metrics through to usage and maintenance statistics for ramp hardware and utility vehicles.

The sheer volume and diversity of all this information can be overwhelming, with data access, ingestion and analysis often a challenge in themselves. But the emergence of new analytics platforms and powerful, cloud-hosted data storage and processing resources now give airlines, airports and their business partners the means to monitor, collect and interpret data quickly and accurately to identify historical usage patterns and predict future trends to improve their operational efficiency.

United Airlines upgraded its data analytics capabilities in 2014, for example, as it sought to change the way it serves its customers whilst simultaneously predicting the likelihood that they may buy certain goods or services during their journey. By collecting over 150 pieces of information about individual passengers, it found it could forecast the behaviour of a particular individual rather than an aggregated group of people, and mostly in less than 200 milliseconds.

SITA’s latest Airport IT Trends Survey predicts that nine out of 10 airports now plan to invest in similar business intelligence applications in 2017. Many of these will rely on underlying big data analytics platforms, with tools that monitor passenger flow and deploy staff and assets more quickly being particularly high on the agenda.

SITA cites three specific areas of air industry operations where better business intelligence can assist performance and planning: sales and marketing, operational awareness, and passenger experience. All of that data has been available in the past, but underlying hardware and software were not sufficiently powerful or intelligent to process it and report back results in real time and fast enough for action to be taken based on the insights provided.

Many IT product and service providers – including SITA itself alongside specialist companies such as Aviation Analytics, Boxever and masFlight – are currently promoting greater use of technology that
tracks passenger movement across the concourse using sensors, beacons and other geo-location technologies. These will generate data that can be harnessed by passenger service departments to optimise staffing at check-in counters, gate arrival and departure gates, transfer desks and airlines lounges, for example.

But analysing data from ground and baggage handling equipment also helps airports identify patterns of activity and plan for future fluctuations to help them reduce downtime, increase staff productivity and ultimately streamline costs. Baggage handling systems specialist Beumer Group has produced a management information system that collates all of the data inputted into its baggage handling system and combines real-time and historical information into 50 predefined reports for easier analysis, or simply exports the data sets to other reporting tools to aid with business intelligence and analytics.

RAMP SAFETY METRICS
Large-scale data analysis also has a part to play in aircraft and airport safety. The International Air Transport Association (IATA) runs a Global Aviation Data Management (GADM) programme, which gathers information from over 470 different organisations and publishes the data annually in its reports.

All contributors are given access to anonymised reports and analysis that offer insight into various operational aspects, including industry accident/incident data, pilot and flight attendant reports, aircraft ground damage reports, collated flight data analysis (FDA) and global Flight Data eXchange (FDX) information. The idea is to give ramp agents a comprehensive overview of historical incidents that may help them with trend analysis and risk management strategies.

The GADM also focuses on improving the customer experience, aiding predictive equipment maintenance by pulling data from ramp equipment, such as baggage trolleys, catering trucks, air start units (ASUs) and passenger stair units, and helping to track hardware lifecycles and optimise replace-and-fix programmes – even helping to optimise fuel consumption for vehicles involved in daily aircraft supply.

Having accurate data on aircraft fuel consumption gives suppliers a crucial advantage, and real-time data processing engines provide the ability to analyse more variables – such as weight or load – more frequently for smarter fuel optimisation during refuelling operations and the flight itself, helping to generate cost savings.

Even something as simple as collating taxi times from one side of the pier to another helps analyse turnaround times, allowing airports to base their gate assignments on the profile of each gate, thereby reducing the likelihood of ramp conflicts.

AIRCRAFT IOT SHARING MORE DATA
Data analytics company IBM estimates that modern aircraft can generate up to half a terabyte (500GB) of data per flight, information that can be harnessed by other companies in the supply chain.
The company worked with Airbus to develop the Airbus Smarter Fleet Solutions (ASFS) platform, initially aimed at integrating Airbus’s own software but with one eye on integration with third party applications that can be accessed by other companies, including ramp agents, to improve their own operations.

Boeing, too, reckons it has between 8,000 and 10,000 sensors on each of the aircraft it manufactures, with 5,000 aircraft generating about 100 petabytes of data. Again, this is information that can be used to improve fuel efficiency, speed up aircraft maintenance and optimise the passenger experience by helping aircraft reach their destination more quickly.

Sharing that information with airports and airlines helps reduce the time the aircraft is parked at a gate or sits in a maintenance hangar. But it also relates to the comfort of the passenger during a flight by monitoring personal preferences around food, television channels, movies and other basic consumables such as soap, toilet paper, reading materials, pillows and blankets.

SOCIAL MEDIA PLAYS A MODEST ROLE

The mass of structured and unstructured data being mined for analytics purposes is as broad as it is long, and often includes social media network sites that yield unique insights into the experiences and attitudes of passengers – which, if shared with ground handling customers, can also be used to improve ramp, baggage handling and cabin operations.

Many airlines and airports already monitor Facebook, Twitter and other sites to find out what their passengers are saying about them in order to react in real time to head off any potentially damaging sentiments, for example, and also use those same social media sites as an outlet for CRM activities such as offers and other marketing campaigns.

Facebook and other sites are increasingly harnessed to inform passengers of changes to their travel schedules, problems with their schedules and concourse retail offers. Athens International airport launched an ATH Messenger service in 2015, using Facebook Messenger to deliver automated flight updates to passenger smartphones, tablets and laptop computers. Others, including Aberdeen Airport, Leeds Bradford International and London City Airport, offer bespoke flight updates via Twitter.

Virgin America took things one step further with social media in 2014, working with WiFi partner GoGo to introduce an in-flight social network tied to its ‘Here on Biz’ mobile app to allow its passengers to connect directly with others travelling on the same aircraft via an API to business-orientated social network site LinkedIn. However, it is not clear how successful the project has been or if Virgin Atlantic has decided to continue the pilot as a commercial service.

Some in the aviation industry are now canvassing opinion to drive product and service design and improvements. Airbus unveiled its new cabin Airspace – to be deployed on its A330neo aircraft in 2017 – earlier this year, crediting input from social media and the Internet for its inspiration.

Elsewhere, Ryanair uses Google+, Facebook and Instagram to facilitate customer-to-customer content in a bid to build greater loyalty amongst its passengers by encouraging them to share not only their experiences but also information on where they like to go and what they like to do. Like Airbus, Ryanair will use feedback from social media sites to help design cabin interiors as well as in-flight entertainment packages, food and service levels.

The sheer volume and diversity of all this information can be overwhelming, with data access, ingestion and analysis often a challenge in themselves.
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BUOYANT MARKET FOR TRANSWORLD AVIATION (TWA)

Ground handling services (GHS) is the new emerging business segment of the growing African aviation industry. Africa is experiencing the growth because of investments in mining, petrochemical and the tourism industry. This buoyant market is created by a business community full of “drive” and “hunger” for business and sustained by existing customers and traders seeking new markets.

The above is the opinion of Abdullah Al Sulaimany, chairman for Dubai-based Transworld Aviation (TWA). He says: “Transworld always supports the aviation business, in particular the Middle East and Africa, and vigorously follows up on new business to be gained including Ground Handling Services, no matter what the region.

“Transworld Aviation is striving to offer GHS at very competitive rates, with world-class service quality, exceeding industry standards. Transworld Aviation has invested heavily on new equipment and hired highly experienced and qualified manpower from different countries to handle and manage the equipment. Security and safety of aircraft, passengers and belongings have been given special consideration by having a multinational team due to the prevailing international environment.

“Cost-effective handling of aircraft services, fast aircraft turnaround, passenger experience on ground is providing additional revenue to our partner airlines and charter operators.”

Al Sulaimany continues: “Although we are a new entrant in the GHS market, we are bringing a paradigm shift in terms of these services in the airports of Africa. We are cultivating a new culture and offering value added services to passengers, ensuring a memorable experience with Transworld Aviation.”

With the increasing demands and bouquet of services, Transworld Aviation has emerged to become a one-stop service provider, including, but not limited to, aircraft handling; passenger and baggage services; load control and communications; flight operation services; as well as meet and greet services.

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Highlights
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- Aircraft transfers by a fleet of BMW 7 Series 760L and a custom finished Rolls Royce Nautica
- A complete standalone facility with its own passenger and baggage handling facilities.
- Capital Investment of 4 million dollars.
**FIRST YEAR OF AEROGROUND BERLIN OPERATIONS**

AeroGround Berlin is about to celebrate its first anniversary as a subsidiary of AeroGround Flughafen München. In July 2015, AeroGround Berlin was established after winning the ground handling license for the Berlin Schönefeld Airport.

At the start of this year, AeroGround Berlin acquired Acciona Airport Services, Berlin and HSD Flughafen from Acciona. In doing so, AeroGround Berlin took over full responsibility for the employees and the provision of ground handling services for the customers of Acciona Berlin.

Following these developments in its first year, AeroGround Berlin is able to offer ramp and baggage, passenger handling and flight operations services at Berlin Tegel and Berlin Schönefeld airports as well as the prospects for a smooth and easy transfer of the services to the new Berlin Brandenburg Airport.

“With the operational experience, reputation and the experience of the staff in Berlin we will generate synergy effects benefitting all locations. Our aim is to further extend operations in Berlin, to be a responsible employer for the staff and to continue offering high-quality ground handling services to our customers in the years ahead,” say Siegfried Pasler and Christian Stoschek, managing directors of AeroGround Berlin.

AeroGround München is a member of ground.net.

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**TWO DECADES**

Transworld Aviation (TWA) was launched in the UK and moved to its present location in the United Arab Emirates in 1994. The Transworld Group covers a range of aviation and non-aviation related activities. Group companies operate in tourism, construction, IT, security, engineering, petroleum exploration and renewable energy. It has established a presence in key international and regional aviation hubs through a network of liaison offices that are manned by highly qualified personnel in supply chain management.

The group’s TWA division covers aviation services, defence support, MRO and ground handling services. The ground handling services are offered at Abeid Amani Karume International Airport (AAKIA), Zanzibar, Tanzania.

According to Al Sulaimany: “TWA (Zanzibar) was established with a mandate to provide superior ground handling services at AAKIA Airport, Zanzibar, and also to invest in airport infrastructure, marketing of the airport, automation and system upgrade, FBO services and duty free zone; to name just a few.

“These are all long-term goals and investments planned for establishing and growing our footprint as a strategic investor in Zanzibar.”

Transworld invites all operators, airlines, charters and tour operators planning or currently flying to Zanzibar, to consider it as prime service provider for ground handling requirements.

Al Sulaimany says: “We are always happy to assist, discuss and also tailor services required as per our customers’ requirements.”

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**FSS EXPANSION IN TEXAS**

Flight Services & Systems (FSS) has opened its newest airport location, San Antonio International Airport (SAT), which will further expand its presence in Texas. FSS will be providing Above and Below Wing ground handling services for Frontier Airlines, with services commencing on May 13. SAT Airport will be FSS’ fourth city in which it partners with Frontier Airlines to provide full ground handling services.

“We are very excited to further expand our partnership with Frontier Airlines, with the addition of San Antonio International Airport,” says FSS president and chief operating officer, Phil Armstrong. “We also feel very fortunate to be joining the SAT airport community and start developing relationships with the airport authority, along with other airlines and airport vendors. We look forward to providing exceptional service to Frontier’s passengers flying in and out of the San Antonio, Texas area.”

The SAT operation will be led by FSS’ general manager, Digna Roura, who is an experienced aviation professional, skilled at building and managing a team, enforcing policies and procedures and providing exceptional customer service. Ms Roura was previously the Envoy/American Airlines general manager at Shreveport Regional Airport.

San Antonio will be FSS’ third location in the state of Texas, as it currently operates in Dallas/Fort Worth International Airport (DFW) and Austin-Bergstrom International Airport (AUS).

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M e m b e r s o f t h e I A T A G r o u n d H a n d l i n g C o u n c i l

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The new handling contract with Cathay Pacific is one of the biggest milestones achieved during Celebi’s tenure in India. The collaboration with CelebiNAS Airport Services India gives the Istanbul-based Celebi the opportunity to work with one of the world’s most prominent airlines. Celebi started its operations in India in 2009.

According to Onno Boots, CEO of Celebi Aviation Holding, the new contract comes at an interesting time for Indian ground handling.

He says: “The Indian government released a comprehensive ground handling policy in 2007 which barred airlines from doing their handling or using outsourced manpower, was done intending to enable safe, secure and world class ground handling at airports in the country.

“Following court cases due to resistance from airlines, the new government has published a draft civil aviation policy for consultations and is being currently debated. The draft policy, while it bars airlines from using manpower contractors for their handling, recommends that airlines be allowed to perform self-handling and even goes to the extent of enabling them to do third party handling. Such a move could impact Celebi’s business interests in this region and is being viewed very skeptically by stakeholders like Celebi.”

NEXT BIG THING
Celebi’s core business is ground handling, passenger and ramp handling and cargo services. It diversified to the warehouse, cargo terminal operation in 2003 and passenger terminal building construction and management between 2004 and 2009.

Boots says: “We have to focus on cargo since it is an area that is profitable and open to growth particularly in geography where we focus on. There is a demand for efficient, innovative and qualified propositions in cargo services.

“We are also keeping an eye on other related airport services such as management of GAT/FBO facilities, CIP lounges, the operation of passenger aerobridges and its ancillary facilities.”

Celebi plans to grow based on its expertise and know-how in the airport services business. In management and operation of on and off airport cargo facilities, Celebi has accumulated invaluable knowledge last five years and intends to utilise it fast growing markets.

Boots says: “The goal is to increase our focus on sub-Indian continent and Asia Pacific; given the global aviation growth projected in the coming ten years in the stated regions we will review our business model aiming to provide fully integrated solutions for our customers, as well as developing new cargo locations.

“I should emphasise that low cost carriers (LCC) is currently the fastest growing sector in the aviation market. Some 60% of all growth is produced by LCCs whilst the LCC market currently represents 25% of the total market. Celebi is the leading provider to LCC carriers in Turkey and as part of its strategy is successfully accelerating replication of its LCC value proposition to its stations abroad, particularly in India.

“LCC carriers have very different characteristics and Celebi has a long history of demonstrating it understands this market segment and has been able to assist our LCC customers in building a sustainable competitive advantage. Celebi’s growing leading market position is a testimony to that.”

Attracting and retaining the best talent is critical to Celebi’s sustained success and as such the airline aims to continue to step up investing in its people by providing ongoing and robust development programs.

Boots says: “As Celebi’s footprint grows abroad outside of Turkey, we are confident it will continue to attract young, energetic, ambitious and well-educated individuals that are eager to learn and after a period of time in Turkey become our future leaders abroad.”

Current expectations of annual global trade growth rates of 5.3% and 5.1% over 2015-2016 should support world freight traffic growth rates of 4.2% and 4.4% respectively.

Boots notes: “What does this mean for Celebi locally in Turkey as well as a major global player in the sector? Celebi Turkey will need to monitor the situation carefully and make adjustments to our strategy as the situation unfolds. Globally, however, Celebi has ample opportunity to continue to grow our businesses abroad with India leading the charts, and we are actively working on further expanding Celebi’s footprint in the Middle East and Asia.”

NEW RULES, NEW POLICIES
“The countries in which we operate are developing several new regulations and policies supporting the civil aviation sector. The airports make lots of efforts to be competitive worldwide; airline companies pay a lot of efforts in developing their fleets, providing new destinations, offering the most convenient pricing. On the other side, the ground handlers try their best to provide the timely, accurate service at very competitive rates.

“The air cargo business, as well, carries the same dynamism as well, air cargo freight forwarders are in search of the best cargo handler and warehousing company to be competitive in cargo transportation segment of their business as well,” Boots notes.
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Services: Transportation, Distribution, Cargo and Handling.

GREECE
Aviation Signature SA
Athens International Airport
40079 EL, Venizelos
Athens, 19019
Tel: +30 210 353 3717
Fax: +30 210 210 2407
Email: ath@signatureflight.gr
Website: www.signatureflight.gr
Services: Fuelling, Domestic & International Handling for all Aircraft Types, Technical, Handling AFC Flight Plan, Parking Permissions and Traffic Rights, Ground Slot Co-ordination for Commercial, Cargo - ADHOC or Flight Series, VIP Passenger Lounge, VIP Passenger & Crew Assistance, VIP Passengers Meet & Greet Services, VIP Passenger & Crew Services, Handling And Fuelling,
Goldair Handling
International Airport “EL. Venizelos” Building 241st floor, 19019 Spata, Greece
Tel: +30 210 354 3000
Fax: +30 210 354 3570
Email: commercial@goldair-handling.gr
Website: www.goldair-handling.com
Services: Supervision/Administration/Load Control, Passenger Handling, Lounge, Baggage Handling (Loading/Unloading/Sorting), Cargo and Mail Transportation and Warehouse, Ramp Handling, Aircraft Services (Cleaning and De-icing) and VIP Services.
Interservice SA
Athens 19400
Greece
Tel: +30 210 188 100
Fax: +30 210 188 105
Email: handling@interservice.gr
Website: www.interservice.gr
Services: IAH Handling, Cargo Handling, VIP Handling, Ramp Handling, Load Control, Representation and Fuel Supply.
Pandair Airport Handling Services SA 379 Syngrou Ave.
Athens 17564
Greece
Tel: +30 210 942 8599
Fax: +30 210 942 8598
Email: pandair@pandair.gr
Website: www.pandair.gr
Skyserve Handling Services SA
Athens International Airport Building 23 (Cargo)
19019, Spata, Attiki
Tel: +30 210 356 4399 / 356 4390
Fax: +30 210 356 4576
Email: commercial@skyserveaero.gr
Website: www.skyserveaero.gr
Airport Locations: Karpathos (AOK), Athens (ATH), Alexandroupoli (AXO), Corfu (CFU), Chania (CHD), Kefalonia (CFU), Araxos (GPA), Iraklio (HER), Ioannina (IOA), Iraklio (IKI), Chios (CHS), Kalymnos (LKL), Mikonos (LCK), Naxos (NKS), Sikinos (SIS), Skiathos (SLS), Syros (SUS), Santorini (JTR), Astypalaia (JTY), Kos (KG5), Kithira (KIT), Kalamata (KLX), Kaos (KLS), Kastoria (KSD), Kavala (KAV), Kozani (KZ1), Kastelorizo (K2S), Lesos (LPS), Limnos (LXS), Mithlimi (MJT), Milosi (ML0), Preveza (PVK), Rhodes (RHO), Thessaloniki (SKG), Samos (SMI), Anhialos (VOL) and Zakynthos (ZTH) Services. Passenger and Aircraft Handling, Executive Aviation Handling, Passenger Services and Airport Support, Airport Lounge, Cargo Handling, Airport Ticket Office Service, Cargo Airside Catering Transport, Administration and Representation, SLOT Support/ Monitoring and Flight Support Operations 24/7, Aircraft Deep Cleaning Services, Catering And Fuel Arrangements.

Swissport Hellas Sud
Athens International Airport
Eleftherios Venizelos
Building 12, GR - 19019 Spata
Tel: +30 210 353 7088
Fax: +30 210 353 7821
Email: zermas@swissport.gr
Website: www.swissport.com
Services: Airport Ticketing, Sales Desk, Arrival and Transfer Services, Baggage Services, Check-In Services, Dedicated Passenger Services, Gate and Departure, Lost and Found, Special Passenger and VIP Load Control Communications, Station Control, Station Operations, Fuel and Supervision, Aircraft Loading/Unloading, Baggage Sorting, Anti/De-Icing, GPU, Push-Back, Water & Toilet Services, Aircraft Servicing and Cleaning, Baggage Delivery, Lounge Services, Traffic Rights and Slots Management & Support.

GRENADA
Aviation Services of Grenada Ltd
P.O. Box 1613 , Grand Anse, St. George's
Tel: +1 473 439 0612
Fax: +1 473 439 0728
Email: admin@sgd.p.g
Website: www.milagrenada.com
Services: Passenger Check-in, Cargo & Baggage Handling, Ramp Handling and Ground Support Equipment.

GUATEMALA
Aviation Services of Central America SA (SAG) SA
31 Calle 7-06, Zona 14, Guatemala City 0104
Tel: +(502) 2 362 1062
Fax: +502 2 333 3661
Email: saglguate@gmail.com
Website: www.sag.com.gt

GUINEA
Guinea
Website: www.ags-airlinegroundservices.com

HAITI
HAT Enterprises SA
Rue Paveé N. 69
Port-au-Prince, Haiti
Tel: +509 123 4567
Email: info@hatentreprises.com
Website: www.hatentreprises.com
Services: Representation Services, Passenger Handling, Ground Handling, Cargo Handling, Baggage Handling, Logistics & Administrative, Warehousing, Human Resources.
ICELAND

Airport Associates
P.O. BOX 40
Building 10 – IS-232
Keflavik Intl Airport
Iceland
Tel: +354 420 0700 / 709
Fax: +354 420 0717
Email: steindisairportassociates@icelandservices.is
Website: www.airportassociates.is

Ireland

Ireland

Aviaxport (P) Limited
A-253/2, Road No.5
Mahipalpur Ext., New Delhi 110037, India
Tel: +91 11 4677 8888
Website: www.aviaxport.net
Services: Comprehensive Ground Handling Services: Passenger Handling, Ramp Handling, Baggage Handling, VIP Services, detailing of aircraft (interior & exterior cleaning of aircrafts), Supervision at airports, GSE Maintenance, GSE rentals - All India basis

Bird Worldwide Flight Services India Pvt. Ltd.,
Airline Office Building,
Cochin International Airport
Nedumbassery
683111 Ernakulam
Telephone: +91 11 2341 8199
Email: hans.bischof@birdwfs.in
Website: www.wfs.aero

Cebeli Ground Handling Delhi
Room No. 23, Import Building 3, Cargo Terminal
Indira Gandhi International Airport
New Delhi - 110037, INDIA
Tel: +91 11 4763 0900
Fax: +91 11 4763 0901
Email: info@delhis@celebicelindia.com
Website: www.celindia.com
Services: Ground Handling Services and Cargo Warehouse Services

Cambata Aviation
Delhi International Airport
Line Maintenance Block A, Terminal 2,
New Delhi 110037, India
Tel: +91 11 2565 4455 / 5371 / 5696
Email: info@cambataav.com
Website: www.cambataav.com

Global Aviation Services
6th Floor, N.M.K. International House,
Babubhai M. Chhinali Marg, 17B,
Backbay Reclamation,
Mumbai - 400 020
Tel: +91 22 6620 5600
Fax: +91 22 2282 9004
Email: info@globalaviationindia.com
Website: www.globalaviationindia.com
Services: Sales and Marketing, Passenger & Cargo Handling, Revenue Accounting, Supervision at Airports, Interline Negotiations, Arranging Inbound and Outbound Tours, Publicity, Foreign Exchange, Leasing and Financing, Software Solutions & Ground Handling.

National Aviation Services
NAS Aviation Services India Pvt Ltd
903-905, A-Wing, Sahara Tech Plaza, Andheri Kurla road, Mumbai 400072
Andheri (E) India
Tel: 91 022 4070 9999
Website: www.nascorporate.com
Services: Representation, Administration and Supervision, Passenger Services, Load Control, Communications and Flight Operations, Security.

SAJ Flight Services Private Limited
No. 8-A, G.S.T Road,
Alandur,
Chennai - 600 016, India
Tel: +91 44 2232 6320 / 21
Fax: +91 44 2232 6322
Website: www.sajflight.com

INDONESIA

JAS Airport Services
Menara Cardig, Jl. Raya Protokol, Halim Perdanakusuma Jakarta 13650 Indonesia
Tel: +62 21 8098 3388
Fax: +62 21 8098 5065
Email: corporate.secretary@ptjas.co.id
Website: www.ptjas.co.id
Services: Aircraft Ramp Handling, Ramp, Ramp Services and Passenger Services.

PT Gupara Angkasa
Gedung DAPENRA, L2 & 3 floors
Jl. Angkasa, Blok B-12 Kav. Kota Baru Bandar Kemayoran Jakarta 10610, Indonesia
Tel: +62 21 6545411
Fax: +62 21 6545408
Email: marketing@gupara.co.id
Website: www.gapura.co.id

SAJ Flight Services Private Limited
No. 8-A, G.S.T Road,
Alandur,
Chennai - 600 016, India
Tel: +91 44 2232 6320 / 21
Fax: +91 44 2232 6322
Website: www.sajflight.com

INDIA

Aviaxport (P) Limited
A-253/2, Road No.5
Mahipalpur Ext., New Delhi 110037, India
Tel: +91 11 4677 8888
Website: www.aviaxport.net
Services: Comprehensive Ground Handling Services: Passenger Handling, Ramp Handling, Baggage Handling, VIP Services, detailing of aircraft (interior & exterior cleaning of aircrafts), Supervision at airports, GSE Maintenance, GSE rentals - All India basis

Bird Worldwide Flight Services India Pvt. Ltd.,
Airline Office Building,
Cochin International Airport
Nedumbassery
683111 Ernakulam
Telephone: +91 11 2341 8199
Email: hans.bischof@birdwfs.in
Website: www.wfs.aero

Cebeli Ground Handling Delhi
Room No. 23, Import Building 3, Cargo Terminal
Indira Gandhi International Airport
New Delhi - 110037, INDIA
Tel: +91 11 4763 0900
Fax: +91 11 4763 0901
Email: info@delhis@celebicelindia.com
Website: www.celindia.com
Services: Ground Handling Services and Cargo Warehouse Services

Cambata Aviation
Delhi International Airport
Line Maintenance Block A, Terminal 2,
New Delhi 110037, India
Tel: +91 11 2565 4455 / 5371 / 5696
Email: info@cambataav.com
Website: www.cambataav.com

Global Aviation Services
6th Floor, N.M.K. International House,
Babubhai M. Chhinali Marg, 17B,
Backbay Reclamation,
Mumbai - 400 020
Tel: +91 22 6620 5600
Fax: +91 22 2282 9004
Email: info@globalaviationindia.com
Website: www.globalaviationindia.com
Services: Sales and Marketing, Passenger & Cargo Handling, Revenue Accounting, Supervision at Airports, Interline Negotiations, Arranging Inbound and Outbound Tours, Publicity, Foreign Exchange, Leasing and Financing, Software Solutions & Ground Handling.

National Aviation Services
NAS Aviation Services India Pvt Ltd
903-905, A-Wing, Sahara Tech Plaza, Andheri Kurla road, Mumbai 400072
Andheri (E) India
Tel: 91 022 4070 9999
Website: www.nascorporate.com
Services: Representation, Administration and Supervision, Passenger Services, Load Control, Communications and Flight Operations, Security.

SAJ Flight Services Private Limited
No. 8-A, G.S.T Road,
Alandur,
Chennai - 600 016, India
Tel: +91 44 2232 6320 / 21
Fax: +91 44 2232 6322
Website: www.sajflight.com

IRAN

IranAir
Iranair H.O
Mehrabad Airport
P.O.Box 3138377755
Tel: +98 21 4662 4528 / +98 21 4662 4500
Fax: +98 21 4662 8447 / +98 21 4662 8444
Email: khoroti@iranair.com / gha@iranair.com
Website: www.iranair.com
Services: Passenger Handling, Ramp, Cargo Services, Ramp Control, Load Control, Contract Unit, Safety and Quality, Work Scope and Contractual Parties.

Safiran Airport Services
Valle Atr Ave., 36 Esfandiyar Blvd
Tehran, Iran-968659353
Tel: +98 21 88 650 633 / +98 21 88 650 638
Fax: +98 21 88 650 626
Email: ops@safranair.com / roham@safranair.com
Website: www.safranair.com
Services: Aircraft Ramp Handling, Passenger Services, Cargo Ramp / W Stage Services, Additional Aircraft Security, Customs and Immigration Clearance, Crew Visa Assistance, Hotel and Local Transportation to and from the Airport, Ground Ambulance When Required, Catering Arrangements & Flight Plans.

Saman Air Services
Front of Mahan Air Tower
Alandur, Kurla road, Mumbai 400072
Tel: 91 022 4070 9999
Website: www.samanair.com

SAJ Flight Services Private Limited
No. 8-A, G.S.T Road,
Alandur,
Chennai - 600 016, India
Tel: +91 44 2232 6320 / 21
Fax: +91 44 2232 6322
Website: www.sajflight.com

INDONESIA

JAS Airport Services
Menara Cardig, Jl. Raya Protokol, Halim Perdanakusuma Jakarta 13650 Indonesia
Tel: +62 21 8098 3388
Fax: +62 21 8098 5065
Email: corporate.secretary@ptjas.co.id
Website: www.ptjas.co.id
Services: Aircraft Ramp Handling, Ramp, Ramp Services and Passenger Services.

PT Gupara Angkasa
Gedung DAPENRA, L2 & 3 floors
Jl. Angkasa, Blok B-12 Kav. Kota Baru Bandar Kemayoran Jakarta 10610, Indonesia
Tel: +62 21 6545411
Fax: +62 21 6545408
Email: marketing@gupara.co.id
Website: www.gapura.co.id

SAJ Flight Services Private Limited
No. 8-A, G.S.T Road,
Alandur,
Chennai - 600 016, India
Tel: +91 44 2232 6320 / 21
Fax: +91 44 2232 6322
Website: www.sajflight.com
**IRELAND**

**Sviserair/Swissport Ireland**

Room 1B, Terminal 1, Dublin Airport, Dublin, Ireland
Tel: +353 1 812 5677
Fax: +353 1 844 4839
Email: wayne.gough@swissport.com

**WFS**

8 International House Dublin Airport
Dublin, Ireland
Tel: +353 1 38 08 09 05
Email: gerry.jackson@wfs.ie
Website: www.wfs.aero

**ISREAL**

**Aeroholding Ltd**

Ben Gurion International Airport Arrivals Hall
PO. Box 177
70100 Israel
Tel: +972 3 975 4013
Fax: +972 3 975 4014
Email: aeroholding@aeroholding.com
Website: www.aeroholding.com
Services: Ground Handling Services, Load Control, Ramp Services, Load and Transfer Services, Passenger Services, Hostess and Agents, Baggage Sorter, Ramp, Supervisions, Meet and Assist, Rover, Passenger Services, Hostess and Agents, Buggy, Private Aviation & Schedule Coordination.

**Lauffer Aviation-GHI Ltd.**

PO. Box 115
Ben-Gurion International Airport 70100 Israel
Tel: +972 3 975 1300
Email: laufferghiltd@laufferghiltd.com
Website: www.laufferghiltd.com

**QAS Quality Airport Services Ltd**

PO. Box 36 Ben Gurion Airport 70100 Israel
Tel: +972 3 975 1333 Fax: +972 3 975 1332
Email: ps@qasinternational.co.il Website: www.qasinternational.co.il
Services: Passenger Services, Aircraft Servicing, Operations, Ramp Handling and Cargo Services.

**ITALY**

**Aerodica SpA**

Air company Aeronautica
Piazzale Sordoni
60015 Falconara M.ma Ancona, Italy
Tel: +39 071 282 7242 Fax: +39 071 282 7508
Email: info@ancona-airport.com Website: www.ancona-airport.com
Services: Passenger Handling, Refuelling and Representation.

**Airport Handling SpA**

20199 Aeroporto Milano Malpensa 2, Italy
Tel: 0039 02 7486 6375 Website: www.airporthandling.eu
Email: segreteria.generale@airporthandling.eu

**ALH group**

Via di Conventi, 5(8-9 - 59100 Prato, Italy
Tel: +39 0574 5741 Fax: +39 0574 57420
Email: info@alhgroup.com Services: Cargo handling, security, trucking

**Airlines Representative Europe**

Via Napoli, 15, Ciampino Roma, Italy
Tel: +39 06 796 4690 / 095 2279 801 Fax: +39 095 2279 802
Email: secretary@aregroup.com / ops@aregroup.com Website: www.aregroup.com

**Alisud**

Ciampino Airport, Rome, Italy
Tel: +39 06 6959 9514 Fax: +39 06 6590 9515
Email: fbo.cia@ghitalia.it Website: www.alisud.com
Services: Passenger Services, Ramp Services, Load Control and Flight Operations.

**ATA Italia s.r.l.**

Lungotevere Aventino, 5 00153 Roma, Italy
Tel: +39 07 205 210 / 39 02 7020 5218 Fax: +39 270 205 210 / 39 02 7020 5210
Email: marketing@ata-airport.it / operations@ata-airport.it / a.pastorelli@ata-airport.it
Website: www.atahandling.it / www.ata-airport.it.com
Airport Locations: Catania (CTA), Milan Linate (LIN), Milan Malpensa (MXP), Rome Fiumicino (FCO), Venice (VCE)
Services: Passenger and Ramp Handling (Excluding Cargo Warehousing and De-Icing)

**Aviapartner Italy**

Viale alle Arti 123, 00054 Fiumicino Rome, Italy
Tel: +39 06 6500 4909 Fax: +39 06 6500 0156
Email: tziana.auglieri@aviapartner.aero Website: www.aviapartner.aero
Airport Locations: Catania (CTA), Milan Linate (LIN), Milan Malpensa (MXP), Palermo (PMO), Rome - Fiumicino (FCO), Turin (TRN), Venice (VCE), Catania (CTA), Bologna (BLG)
Services: Full Handling Services, Available to Handle All Types of Aircrafts, Commercial & General Aviation Flights Serviced, Flag Carriers, Long and Medium Haul Flights, Charters, Etc.

**Marconi Handling**

Aeroporto G Marconi di Bologna
Via Triumvirato 84 - 40132 Bologna
Tel: +39 051 6479 650 Fax: +39 051 6479 103
Email: direzione@marconihandling.it Website: www.marconihandling.it

**SAGAT Handling SpA**

Torino Airport
Strada San Maurizio, 12
10072 Caselle Tse (TO) – Italy
Tel: +39 011 5676 256 Fax: +39 011 5676 256
Email: station.manager@sagathandling.trn.it Website: www.sagathandling.it
Services: Passenger Services, Aircraft Handling, Cargo and Mail, Vehicle and Equipment.

**SEA Handling**

100% subsidiary of SE Group
20100 Aeroporto Milano Malpensa 2, Italy (100% subsidiary of SE Group)
Tel: +39 02 7486 3503 Fax: +39 02 7486 3080 Website: www.seahandling.it
Email: dq.hnd@seamilano.it Services: Ramp Handling, Passenger Check-in, Boarding & Disembarking of Passengers, Luggage & Cargo, Aircraft Balancing, Luggage Distribution & Reconciliation.

**WFS c/o SFS Italy**

CP 65 Malpensa Airport, Cargo City, Tower E 3rd Floor 21010 Malpensa Tel: +39 02 74 86 76 33
Email: minkoini@wfs.aero

**IVORY COAST**

**Astra Aviation**

Felix Houphouet Boigny International Abidjan Email: info@astra-aviation.com Website: www.astra-aviation.com
Services: Aircraft Charter, Aircraft Flight Support and Supervision for Executive Aircraft and Ambulance Flights, Aircraft Fuel Supply, Catering and GHA Services Arranged and Permits applied for, Airport Management and Representation For Passenger and Cargo Airlines “Astra Visitor Services” that can include Hotel Booking, Airport Meet and Greet & Private Transport Services, Personal Protection Services, Local Tours, Aviation Company Representation Services, Aviation Consultancy, Aviation Safety, Security and Handling Products and Equipment, Aviation Security Services, Cargo and Passenger GSA Services, Industrial Safety Wear.

**JAMAICA**

**AJAS LIMITED**

23 Dominica Drive, Kingston 5, Jamaica
Tel: +1 876 952 5530 Fax: +1 876 952 1497 Website: www.ajasja.com
Email: david.wright@ajasja.com (Ramp/Operations Manager) Airport Locations: Norman Manley International, Airport Contact: Bevon Barnett Services: Station Management & Administration, Passenger Services, Aircraft Servicing and Ramp Handling, Passenger Handling, Cargo & Mail Handling,ULD Control, G.S.E Rental.

**JAPAN**

**CKTS Co. Ltd**

9F KAB Runway Blvd 3-7 Rinku-oral Minamai Izumisano City, Osaka 598-0047 Japan
Tel: +81 72 456 5051 Fax: +81 72 456 5056 Email: nozawa@ckts.co.jp Website: www.ckts.co.jp Services: Passenger Handling, Baggage Handling, Cargo, Mail, Warehousing, Ramp Handling, Load Control, Aircraft Loading & Unloading, Aircraft Dispatch, Marshalling Pushing Back & Towing, Aircraft Cleaning & Aircraft Maintenance.

**Japan Airport Service Co., Ltd**

154-4 Komae, Furugome, Narita 282-0004, Chiba Japan
Tel: +81 476 32 5881 Fax: +81 476 32 5894 Email: Lobob@jasc-ghs.co.jp Website: www.jasc-ghs.co.jp Services: Passenger Services, Ramp Services, Cargo and Mail Services.

**JORDAN**

**Aviation Handling Services (Jordan) Ltd**

Queen Alia International Airport Cargo Centre
Queen Alia Airport St E867, Amman 11814 Jordan
Tel: +962 6 445 2480 Fax: +962 6 445 2008 Email: amm.dutymanager@ahs-group.com Website: www.ahs.com Services: PAX Handling, VIP Handling, Ramp Handling, Fuel Supply, Load Control, Representation, Security, Corporate Flight Support.
KENYA
African Flight Services - Jomo Kenyatta Intl Airport
AFS Centre - Cargo Road - Freight Terminal
P.O. Box 661-00523, Embakasi, Nairobi,
Tel: +254 20 929 000
Email: David@AFSGSasia.com

Kenya Aerotech Ltd
Jomo Kenyatta International Airport
P.O. Box 20032, 00501, Nairobi, Kenya
Tel: +254 272 279168
Fax: +254 20 827131 / 30 / 35
Email: info@kayaerotech.com
Website: www.kayaerotech.com
Services: Pushback & Towing Services, Aircraft Cabin Cleaning, Fresh Water Supply, Lavatory Services

NAS Airport Services
P.O. Box 19010 - 00501, Nairobi, Kenya
Tel: +254 20 697 2000
Fax: +254 20 822 323
Website: www.nascat.com
Email: customerservice@nascat.com

Signion Aviation
Jomo Kenyatta International Airport (JKIA),
Nairobi, Kenya
Tel: +254 (0)20 263 6764/2642961/2643627
Email: aviation@signion.com; info@signion.com
Website: www.signion.com

Swissport Kenya Airside Ltd
Jomo Kenyatta International Airport
Swissport Cargo Complex, P.O. Box 19177,
00501 Embakasi, Nairobi, Kenya
Tel: +254 2772 450/452
Mobile: +254 728 804 088
Fax: +254 20 2771 450
Email: nbo.dmo@swissport.com
Website: www.swissport.com
Services: Airport Ticketing Sales Desk, Arrival and Transfer Services, Baggage Services, Check-in Services,
Dedicated Passenger Services, Gate and Departure Services, Lost and Found Services, Special Passenger and VIP Services, Load Control and Communications, Station Representation and Supervision, Aircraft Loading/Unloading, Baggage Sorting, GPU, Pushback, Water & Toilet Services, ACU, ASU

KUWAIT
Kuwait Aviation Services
Kuwait International Airport
P.O. Box: 24417 Safat, Zip Code: 13005
Kuwait
Tel: +965 2434 5535 / +965 2434 6666
Fax: +965 2431 5612 / +965 2471 7636
Email: info@kasco.com.kw
Website: www.kasco.com.kw
Services: Ground Handling, Transportation, Luggage, Passenger Services, Engineering Equipment.

LATVIA
Lexiport
Tehnikas Str., Riga Airport, LV-1053, Riga, Latvia
Tel: +371 67 207 125
Mobile: +371 26 316 746
Fax: +371 26 316 746
Email: lexiport@airporthavas.com
Website: www.airporthavas.com
Services: Assistance to Obtain Landing Permit, Flight Supervision, Ground Services at Passenger Terminals, Ramp, VIP Service, Aviation Fuel Supply, de-Icing, Catering Arrangements, Cargo Handling at Warehouse and Airport Customs Formalities, Hotel Accommodation and Transfer.

LEBANON
MEAG (Middle East Airlines Ground Handling)
Beirut Rafic Hariri International Airport
P.O.Box 83133, Beirut, Lebanon
Tel: +961 1622 555
Fax: +961 1623 148
Email: meag@meag.com.lb / mujaisr@meag.com.lb
Website: www.meag.com.lb
Services: Passenger and Baggage Services, Freight and Postal Services, Ramp Services, FBO Services,
Special Care Services, Lounges, VIP Services, GSE Maintenance

MALAYSIA
KL Airport Services Sdn Bhd
Jalan Klia 56, Southern Support Zone, KLIA,
64000 Selangor, Malaysia
Tel: +60 3 8778 8000
Fax: +60 3 8778 8007
Website: www.klasions.aero/groundservices.com
Services: Aircraft Handling, Ramp Services, Aircraft Loading and Unloading, Passenger Handling, Baggage Handling and Delivery, Cleaning Services, Aviation Fuel Supply, AMM, GSE Maintenance

MALAWI
Menzies Macau Airport Services Ltd.
Tel: +853 2886 1123
Fax: +853 2886 1135
Email: ivyyp@menziesaviation.com.mo / enquiries@menziesaviation.com.mo
Website: www.menziesaviation.com.mo

LIBYA
Sharooq Handling & Ground Services
P.O. Box 274
Tripoli
Libyan Arab Jamahiriya
Tel: +218 21 340 6966
Fax: +218 21 340 6969
Email: o.mansor@lgsc.ly
Website: www.sshandg.com

LITHUANIA
Baltic Ground Services UAB
Kolegijaus g. 120, LT-10534, Vilnius, Lithuania
Tel: +370 5 252 55 92
Fax: +370 5 252 50 07
Email: info@bgslithuania.com
Website: www.bgslithuania.com

LUXEMBOURG
Luxair Services
Luxembourg Airport L-2987
Tel: +352 2456 6000 / 2456 6009 / 2456 4238
Fax: Handling Pax Aircraft: +352 2456 5009
Fax: Handling Cargo Aircraft: +352 2456 2221 / 2456 5021
Email: freight.handle@luxair.lu / info@luxairservices.lu
Website: www.luxaircargo.lu / www.luxairservices.lu
Services: Full Cargo Handling Services (Ramp, Warehouse, FBO and Documentation) Full Passenger Handling Services, Accommodation, Fuel Supply, Weather Forecast.

MACAO
Menzies Macau Airport Services Ltd.
Tel: +853 2886 1123
Fax: +853 2886 1135
Email: ivyyp@menziesaviation.com.mo / enquiries@menziesaviation.com.mo
Website: www.menziesaviation.com.mo
Malaysia Airline
Support Facilities Building, MAS Campus
Kuala Lumpur International Airport (KLIA)
Sepang 64000, Selangor Darul Ehsan
Malaysia
Tel: +60 3 8777 9503
Fax: +60 3 8777 2378
Email: moses@mas.com.my
Website: www.malaysia-airlines.com
Services: Representation, Administration and
Supervision, Passenger Services, Ramp Services,
Load Control, Baggage, Communications and Flight
Operations, Cargo and Mail Services, Support
Services, Security, Aircraft Maintenance.

Senai Airport Terminal Services Sdn Bhd
Senai international airport, 81250, Johor Bahru, Johor Darul Ta'zim
Malaysia
Tel: +607 999 4500
Fax: +607 999 4695
Email: info@senaiairport.com
Website: www.senaiairport.com
Services: Passenger Services, Ramp Services,
Supervising Aircraft Loading, Loading and Offloading,
OSS Equipment, Baggage Handling, Towing Cargo To & From Warehouse, Pushback
Servicing Activities, Flight Operations and Aerodrome Operations.

Transmile Aviation Sdn Bhd
Kuala Lumpur, Subang, Malaysia
Cargo Complex, Sultan Abdul Aziz Shah Airport
47200 Subang, Selangor Darul Ehsan
MALAYSIA
Tel: +60 3 7884 9898
Fax: +60 3 7884 9899
Email: info@transmile.com
Website: www.transmile.com
Services: Cabin Cleaning Inflight Catering, Ramp
Services and Passenger Handling.

Mauritius

Astra Aviation
Sir Seewoosagur Ramgoolam International
Airport
Mauritius
Email: info@astra-aviation.com
Website: www.astra-aviation.com
Services: Aircraft Charter, Aircraft Flight Support
and Supervision for Executive Aircraft and
Ambulance Flights, Aircraft Fuel Supply, Catering
and GHA Services Arranged and Permits applied
for Airport Management and Representation
For Passenger and Cargo Airline “Astra Visitor Services” that can include Hotel Booking, Airport
Meet and Greet & Private Transport Services,
Personal Protection Services, Local Tours, Aviation
Company Representation Services, Aviation
Consultancy, Aviation Safety, Security and Handling Products and Equipment, Aviation
Security Services, Cargo and Passenger GSA
Services, Industrial Safety Wear.

Equity Aviation (Indian Ocean) Ltd/Ground2Air
2nd Floor Passenger Terminal Building
SSR International Airport Plaine Magnieh
Mauritius
Tel: +230 603 5900
Fax: +230 603 5901
Email: management@ground2air.mu
Website: www.ground2air.mu
Services: Passenger Services, Ramp, Loading/Unloading,
Weather, Assistance Unit, Passenger Bussing, Passenger
Supply, Landing Permits, Line Maintenance, Load
Control/Weight Balance, Aircraft Washing, Load
Control/Weight Balance, Weather, Ambulance, Hotel Accommodations, Visa
Clearance, Refuelling, Security, Flight Planning,
Supervision, VIP, Cargo Handling and Ancillary Services.

GlobGround Malta (GGM)
Malta International Airport
P.O. Box II, Gudja
Tel: 236 964 20
Fax: 212 50173
Email: admin@globgroundmalta.com
Services: Passenger Services, Aircraft Handling and Cargo Handling.

Moldova

Aero Charter de Mexico SA de CV
Boulevard Aeropuerto No. 81
Col Federal, Mexico 15700
Mexico
Tel: +52 554 777 7700
Fax: +52 554 777 3300
Email: dualain@aerocharter.com.mx
Website: www.aerocharter.com.mx
Services: Aircraft Pushback, Aircraft Steps,
IATA, Airport Representation, Airport Terminal Facilities,
Baggage Handling, Boarding, Cabin Cleaning,
Charter Flight Handling, Check-in, Crew Transport,
Flight Dispatch, Flight Planning, Ground Power Supply, Loading Permits, Line Maintenance, Load
Control/Weight, Over-Flight Rights, Passenger Assistance Unit, Passenger Busing, Passenger
Handling and Passenger Services.

Avion Representaciones y servicios (ARS)
Boulevard Francia, Delegación Asencio 4172
Altos 2-5, Puerto Vallarta
Jalisco
Mexico
Tel: +52 322 0167
Fax: +52 322 231 0158
Email: cornelia@arsmex.com
Website: www.arsmex.com
Services: Passenger Handling Services, IATA,
Handling, VIP Handling, Ramp Handling, Load
Control and Representation.

Aeromexico - Aerovias de Mexico
Reforma 445 / COL. 
CUAUHTEMOC
Mexico D.F.
Mexico
Tel: +52 5 762 96 77
Fax: +52 5 133 5057
Email: mbaca@aeromexico.com.mx
Services: Representation, Administration and
Supervision, Passenger Services, Ramp Services,
Load Control, Communications and Flight
Operations, Support Services.

Groundforce
International Airport of Cancun
Carr. Cancun-Chetumal km: 22,
C.P.77765.
CANCUN
Tel:+52 998 866 1133/35
Email: rchavira@ghm.com.mx
Website: www.groundforceaero.com
Services: Passenger, Ramp, Loading/Unloading,
Towing of Luggage, Security Procedures, GPU,
Towing and Pushing Back Of Aircraft, Load Control
and Communication, Security, Cleaning and Ramp
Equipment.

Menzies Aviation Mexico
Mexico City, 15510
Mexico
Tel: +52 55 5785 2684
Fax: +52 5785 2772
Mobile: +52 51 554 354 9940
Email: juancarlos.maldonado@menziesaviation.com
Website: www.menziesaviation.com
Services: Ground Handling and Cargo Handling.

SEAT - Servicios de Apoyo en Tierra
Boulevard Puerto Aéreo 354,
Col Mocetzuma, C.P. 15500
Mexico D.F. 15500,
Mexico
Tel: +52 (55) 5062 0030
Fax: +52 (55) 5063 6209
Email: ctid@seat.com.mx / info@seat.com.mx
Website: www.seat.com.mx
Services: Passenger, Ramp, Flight Dispatch,
Security, Aircraft Maintenance, Load Control,
Security, Ground Support Equipment Maintenance,
Executive Aviation.

Swissport de Mexico SA de CV
Aeropuerto Internacional de Cancun
Carretera Cancun - Chetumal
KM 22 Lotes 06 Y 07,
Zona Federal, C.P. 77765
Tel: +52 998 8886 0764/65/66
Fax: +52 998 8886 0767
Mobile: +52 99 8845 2875
Email: jose.canales@swissport.com
Website: www.swissport.com.mx
Services: Airport Ticketing Sales Desk, Arrival
and Transfer Services, Baggage Services, Check-
In Services, Dedicated Passenger Services, Sale
and Departure Services, Lost & Found Services,
Special Passenger & VIP Services, Load Control
and Communications, Station Representation and
Supervision, Aircraft Landing/Unloading, Baggage
Sorting, GPU, Push-Back, Water & Toilet Services,
ACU, ASU.

Moldavia Airlines Ground Handling Department
Chisinau Airport, MD-2026 1st Floor
Hotel Airport, Chisinau
Moldova
Tel: +373 2 252 9356
Fax: +373 2 252 5057
Email: handling@mdv.md
Website: www.mdv.md
Services: Baggage Handling, Cabin Cleaning,
Check-In, Crew Transport, De-icing, Exterior
Aircraft Washing, Load Control/Weight Balance,
Loading/Unloading, Passenger Assistance Unit,
Passenger Handling, Ramp Services, Refueling,
Representation, Toilet and Water Services.
GROUNDCARE PROVIDERS

QATAR

Qatar Aviation Services
Doha International Airport
P.O. Box 383
Doha - Qatar
Tel: +974 4462 7145
Fax: +974 4462 1485
Email: generalaviation@qataraviation.com
Website: www.qataraviation.com
Services: Baggage Handling, Cabin Cleaning, Load Control/Weight Balance, Lounge Services, Passenger Handling, Ramp Services, Representation and Ticketing.

Ras Al Khaimah

Ras Al Khaimah International Airport
P.O. Box 501, Diq Daga Road
Ras Al Khaimah
United Arab Emirates
Tel: +971 7 207 5200
Fax: +971 7 244 8599
Email: belinda.suares@raikairport.com
Website: www.raikairport.com
Services: Passenger Handling, Ramp Services, Load Control, Communications and Flight Operations, Cargo and Mail Services, Support Services, Security.

REPUBLIC OF MOLDOVA

Aeroport Handling SA
Chisinau, Bd. Dacia No. 3
Republic of Moldova
Tel: +373 22 525 999
Fax: +373 22 525 124
Email: office@handling.md
Website: www.handling.md
Services: Offering a Complete Range Of Ground Handling and Passenger Services, from Terminal Check-In to Aircraft Services.

ROMANIA

Menzies Aviation Romania
Henri Coanda International Airport, Bucurestiilor 224E, Otopeni, Ilfov, Romania
Tel: +40 21 201 3322
Fax: +40 21 201 4806
Email: cristian.paris@menziesaviation.com
Website: www.menziesaviation.com
Services: Ticketing, Check-in, VIP Lounges, Load Control, Aircraft Loading and Unloading, Cabin Cleaning, Toilet and Water Services, Aircraft Ground Power and Start-Up, De-Icing, Pushback & Towing, Customer Complaints Handling, Independent Call Centres, Airside and Landside Bussing, Secondary Tracing, LZ Storage and Management.

Romanian Airports Services
Baneasa Bucharest International Airport
Bucharest 1, ROMANIA
Tel: +40 21 232 05 51 / +40 21 230 72 51
Fax: +40 31 805 64 24 / +40 31 816 53 24
Email: ras@baneasa.biz / ras@handling.ro
Website: www.baneasa.biz

RUSSIA

Traverse Avia Service Ltd
UL. Second voyage, d. 8/29
Tel: +7 495 436 4892, 436 7565
Email: info@tras-mow.ru
Website: www.tras-mow.ru
Services: Ground Handling, Rates and Fees, Refueling, Organized Catering, Passenger and Crew Accommodation, VIP Halls.

Vnukovo Terminal
119027, Russia, Moscow, 2 Reysovyaya Street, 2-PK
Tel: +7 495 436 83 49
Email: vnk-terminal@mail.ru

WORLDWIDE GROUND SERVICES PROVIDERS

PODunkhuvut

P.O. Box 1, Riga
Latvia
Tel: +371 673 9188
Fax: +371 673 9199
Email: info@podunkhuvut.com
Website: www.podunkhuvut.com
Services: Hong Kong - Shanghai, Ulaanbaatar - Moscow, Air Cargo, Ground Handling, Baggage Services, Aircraft Cleaning, Air Ambulance, Aircraft Towing, Airside Services, Catering Services, Hotel Reservations, Hotel Transfers, Bus Transportation.

SAS

SAS Cargo Handling
SAS Cargo Center, Gate C12
Tel: +45 7927 0140
Fax: +45 7927 0140
Email: sascargohandling@sas.com
Website: www.sas.com
Services: Cargo Handling, Baggage Handling, Aircraft Pushing and Towing, Cabin Cleaning, Maintenance, Luggage Services, Travel Service.

TAG

TAG Aviation
P.O. Box 4033
Switzerland
Tel: +41 26 354 1212
Fax: +41 26 354 1212
Email: info@tagaviation.com
Website: www.tagaviation.com
Services: Airport Services, Aviation Support, Specialized Services, Aircraft Maintenance, Aircraft Cleaning, Baggage Handling, Cabin Cleaning, Catering, De-Icing, Load Control, Fueling, Ramp Services.

Vietnam Airlines

Vietnam Airlines
P.O. Box 107, 1040, Hanoi
Vietnam
Tel: +84 4 354 34 35
Fax: +84 4 354 34 35
Email: info@vietnamairlines.com
Website: www.vietnamairlines.com
Services: Baggage Handling, Cabin Cleaning, Load Control/Weight Balance, Lounge Services, Passenger Handling, Ramp Services, Representation and Ticketing.

Vnukovo Terminal

Vnukovo Terminal
119027, Russia, Moscow, 2 Reysovyaya Street, 2-PK
Tel: +7 495 436 83 49
Email: vnk-terminal@mail.ru
Website: www.vnukovo-terminal.com
Services: Baggage Handling, Cabin Cleaning, Load Control/Weight Balance, Lounge Services, Passenger Handling, Ramp Services, Representation and Ticketing.

WBG

WBG Group
P.O. Box 1258
Malaysia
Tel: +60 3 7406 3000
Fax: +60 3 7406 3001
Email: info@wbg.com.my
Website: www.wbg.com.my
Services: Baggage Handling, Cabin Cleaning, Load Control/Weight Balance, Lounge Services, Passenger Handling, Ramp Services, Representation, Ticketing.

WIND

WIND Aviation
P.O. Box 107, 1040, Hanoi
Vietnam
Tel: +84 4 354 34 35
Fax: +84 4 354 34 35
Email: info@vietnamairlines.com
Website: www.vietnamairlines.com
Services: Baggage Handling, Cabin Cleaning, Load Control/Weight Balance, Lounge Services, Passenger Handling, Ramp Services, Representation and Ticketing.

WNR

WNR
P.O. Box 107, 1040, Hanoi
Vietnam
Tel: +84 4 354 34 35
Fax: +84 4 354 34 35
Email: info@vietnamairlines.com
Website: www.vietnamairlines.com
Services: Baggage Handling, Cabin Cleaning, Load Control/Weight Balance, Lounge Services, Passenger Handling, Ramp Services, Representation and Ticketing.

WTMM

WTMM
TAG Aviation
P.O. Box 4033
Switzerland
Tel: +41 26 354 1212
Fax: +41 26 354 1212
Email: info@tagaviation.com
Website: www.tagaviation.com
Services: Airport Services, Aviation Support, Specialized Services, Aircraft Maintenance, Aircraft Cleaning, Baggage Handling, Cabin Cleaning, Catering, De-Icing, Load Control, Fueling, Ramp Services.

XFT

XFT
TAG Aviation
P.O. Box 4033
Switzerland
Tel: +41 26 354 1212
Fax: +41 26 354 1212
Email: info@tagaviation.com
Website: www.tagaviation.com
Services: Airport Services, Aviation Support, Specialized Services, Aircraft Maintenance, Aircraft Cleaning, Baggage Handling, Cabin Cleaning, Catering, De-Icing, Load Control, Fueling, Ramp Services.

Moose Aviation Services
PO. Box 2
SE-190 45 Stockholm - Arlanda
Sweden
Tel: +46 8 797 89 70
Fax: +46 8 797 89 72
Email: info@mooseaviation.se
Website: www.mooseaviation.se
Services: De-Icing, Glycol Removal, Aircraft Heating Aircraft Washing / Cleansing.

Spirit Air Cargo Handling Sweden AB
Fraktväg 29
19587 Stockholm-Arlanda
Tel: +46 8 797 3360
Website: www.spiritaircargohandling.com
Services: Bonded Warehousing, Cargo and Mail Handling, Full Freighter Ramp Handling, Full Export & Import Document Handling Including AWB Check & Data Capture, ULD Control and Management, Trucking Cargo Screening, Back Office Support, Planning & Disposition, Customs Clearance.

Worldwide Flight Services
WFS Sweden AB
Fraktväg 36 C/B
Cargo City, PO Box 92
S-190 45
Arlanda
Tel: +46 8 593 608 00
Email: jack.blades@wfs Sweden.com

SWITZERLAND

Airviapartner Switzerland
Operation Centre 1, 7th Floor, Room 229
PO Box 47, 8058 Zurich Airport
Switzerland
Tel: +43 6 60 548 42 23
Email: ops_zrh@airviapartner.ch
Website: www.airviapartner.ch
Services: Pushback/Towing, Baggage Handling, Boarding, Cabin Cleaning, Check-in, Crew Transport, De-Icing, Ground Power Supply, Loading/Unloading, Passenger Assistance Unit, Passenger Bussing, Ramp Services, Ticketing, Toilet and Water Services, Unaccompanied Minors.

Airline Assistance Switzerland Ltd
P.O. Box 219,
CH-8060
Zurich-Airport
Switzerland
Tel: +41 43 816 53 50
Fax: +41 43 815 41 41
Email: sales@aaaswitzerland.com
Website: www.aaaswitzerland.com
Services: Passenger Services and Assistance, Ticketing, Full Ramp Services, Baggage Handling, Load Control, Supervision, Anti- and De-Icing Services.

CHEP Aerospace Solutions
Steinackerstrasse 2
8302 Kloten, Switzerland
Tel: +41 43 255 44 11
Fax: +41 43 255 44 12
Email: aerospace@chep.com
Website: www.chep.com
Airport Locations: AKL, AMS, BAH, BKK, BNE, BRU, CGG, CHC, CPH, CUN, DEN, DFW, DME, DUS, EMA, EWR, FRA, HKG, HNL, IAD, IAH, JFK, LAX, LHR, LIS, LOS, LUX, MAD, MAN, MEL, MIA, MXP, NBO, ORD, PER, SEA, SFO, SIN, SVO, SYD, ZRH, YUL, YVR, YZZ
Services: ULD and Cartage Solutions, Including Management, Supervision and Repair and Assembly, GSE Repair and Preventative Maintenance, Inflight Entertaiment Upgrade.

Dnata Switzerland
dnata switzerland AG, Obestattenstrasse 27
PO Box 235, CH-8002 Kloten
Tel: +41 43 815 83 11
Email: zurich@dnata.ch
Website: www.dnata.ch
Services: Passenger Services, Ticketing Ramp Services, Baggage and Cargo Handling, Load Control and Communications.
GATE GOURMET
Gate Gourmet Switzerland GmbH
Baisberg, P.O. Box 0V
CH-8058 Zurich Airport
Switzerland
Tel: +41 43 132 6480
Fax: +41 44 810 9175
Email: communications@gategroup.com
Website: www.gategourmet.com
Services: Airline Catering and Last Mile Provisioning, On-Board Retail Solutions, A Major Driver of Ancillary Revenue, the same Catering And Provisioning Services for Non-Airline Customers: Railway Companies, Lounges And Business Aviation.

SWISSPORT ZURICH
P.O. Box, 8058
Zurich Airport
Switzerland
Tel: +41 43 815 03 25
Fax: +41 43 815 03 08
Email: peter.beutler@swissport.com
Website: www.swissport.com
Services: Airline Ticketing Sales Desk, Arrival and Transfer Services, Baggage Services, Check-In Services, Dedicated Passenger Services, Gate and Departure Services, Lost & Found Services, Special Passenger and VIP Services, Load Control and Communications, Station Representation and Supervision, Aircraft Loading/Unloading, Baggage Sorting, GSE, Pushback, Water & Toilet Services, ACU, ASU.

TAIWAN
Evergreen Airline Services Corp
6-1, Hsinchu Rd., Dayuan
Taoyuan County 337
Taiwan
Tel: +886 3 351 9922/9927
Fax: +886 3 383 4892
Email: psn@egas.com.tw
Website: www.egas.com.tw

TAOYUAN INTERNATIONAL AIRPORT SERVICES CO LTD
No.55, Hang Chn. N. Rd.
Taoyuan International Airport
Taoyuan 33758
Taiwan, R.O.C.
Tel: +886 3 383 2578/886 3 396 2578
Fax: +886 3 383 4488
Email: customer@tias.com.tw / gsd@tias.com.tw
Website: www.tias.com.tw

THAILAND
BAGS GROUND SERVICES CO., LTD.
333 LPH Building 1, 12th Floor, Room A2
Viphavadee-Rangsit Road, Chomphon
Chatuchak Bangkok 10900 Thailand
Tel: +66 2272-2591
Fax: +66 2272-2593
Email: suithathamnee@bags-groundservices.com
Website: www.bags-groundservices.com
Services: Flexible Airport Services, Fully Ground Handling Services such as Passenger Handling Services, Ramp Handling Services and Cargo Handling Services - including but not limited to Representation, Loading/Unloading, Interline Baggage, Aircraft Cleaning, Cabin Service, Marshalling, Flight Operations, Dispatch, Weight and Balance Control, Towing, Pushback, Air Starter, Water and Lavatory, Ground Power, Air Conditioning, ULD Conditioning, Crew Transportation, and so we Provide the Airport Services for 16 Airports around Thailand.

BANGKOK FLIGHT SERVICES
Bangkok Suvarnabhumi International Airport
777 Moo 1, Nong Prue, Bang Phli
Samut Prakan 10540, Thailand
Tel: +66 2139 5000
Fax: +66 2139 5007
Email: robert@bfsasia.com
Website: www.bangkokflightservices.com

LUTHANSA SERVICES (THAILAND) LTD
Suvarnabhumi International Airport Room A4-091, 4th Floor, 999 Moo 1, Bangna-Trad, Rachathewi, Bangphli, Samutprakan 10540 Thailand
Telephone: +66 2134 2210
Fax: +66 2 134 2219
Email: info@lth-thai.com
Website: www.lth-thai.com
Services: Representation, Administration and Supervision Passenger Services, Ramp Services, Load Control, Communications and Flight Operations, Cargo and Mail Services, Support Services.

THAI AIRPORTS GROUND SERVICES CO LTD
Cargo Terminal 4
171 Vibhavadi Rangsit Road
Bangkok Int'l Airport
10210, Bangkok
Thailand
Tel: +66 253 51986
Fax: +66 253 51987
Email: naowarat@tags.co.th
Website: www.tags.co.th
Services: Representation, Administration and Supervision Passenger Services, Ramp Services, Load Control, Communications and Flight Operations, Cargo and Mail Services, Support Services.

TAZANIA
AFRICA FLIGHT SERVICES
JNIA Cargo
P.O Box 5896
Dar Es Salaam
MWANZA GROUND HANDLING
P.O Box 10605
Mwanza
TANZANIA
Tel: +255 282 560 694 / +255 282 560 687
Fax: +255 282 560 614
Email: info@mwanzaairport.co.tz
Website: www.mwanzaairport.co.tz
Services: Guiding Aircraft, Passenger Steps for Boarding and Disembarking, Ground Handling Operations, Catering, Baggage Handling, Towing and Positioning Aircraft, Cleaning & Servicing Cabin, Aircraft & Lavatories, Loading/Unloading, Mobility of Passengers and Crews.

SWISSPORT TANZANIA LTD
P.O. Box 18043
Terminal II
Julius Nyerere International A
Dar es Salaam
TANZANIA
Tel: +255 22 284 4610 Ext. 2230
Mobile: +255 754 400 660
Fax: +255 22 284 4343
Email: stella.kitala@swissport.com
Website: www.swissport.com

ZAT AVIATION
P.O. Box 1981
Zanzibar
Tanzania
Tel: +255 24 223 3979 / 223 1819
Fax: +255 22 334 36 / 223 30 299
Email: info@zat-aviation.com
Website: www.zanizbar-airport.com
Services: Baggage Handling, Cabin Cleaning, Check-In, Ground Power Supply, Loading/Unloading, Passenger Assistance Unit, Passenger Handling, Ramp Services, Unaccompanied Minors, ASU, Cabin Cleaning.

TOGO
SOCIETE TOGOLAISE DE HANDLING
BP 10132 Lome - TOGO
Tel: +228 226 34 79
Fax: +228 226 34 25
Email: contact@sthandling-aero.tg
Website: www.sthandling-aero.tg

TRINIDAD AND TOBAGO
SERVISAIR/SWISSPORT
Piarco International Airport
Piarco, W.I.
Tel: +1 868 669 1259
Fax: +1 868 669 2052
Email: eugene.sharins@swissport.com
Website: www.swissport.com
Services: Airport Representation, Cabin Cleaning, GSE Maintenance, Load Control/Weight Balance, Passenger Services and Ramp Services.

TUNISIA
SOFTAVIATION AVIATION SERVICES
Tel: +267 71 807 217
Mobile: +267 816 466 981
Email: softaviation@tunisairhandling.com.tn
Website: www.tunisairhandling.com
Services: Ground Handling, Landing Permits, Catering, Fuel.

TUNISIA SA GROUND HANDLING SERVICES
Enfidha-Hammamet International Airport
Sousse 4030
Tunisia
Tel: +267 71 310 310
Fax: +267 71 307 307
Email: coy@enfservices.net
Services: Aircraft Pushback/Towing, Baggage Handling, Boarding, Cabin Cleaning, Check-In, Landing Permits, Load Control/Weight Balance, Loading/Unloading, Overnight Flights, Passenger Assistance Unit, Passenger Handling, Ramp Services, Slot Coordination, Traffic Rights, Unaccompanied Minors.

TUNISAIR HANDLING
18 Rue Des Entrepreneurs
Chargui II
Tunis 2035
Tunisia
Tel: +216 71 942 555 ext. 104
Fax: +216 71 942 188
Email: b.henamed@tunisairhandling.com.tn / info@tunisairhandling.com.tn
Website: www.tunisairhandling.com
Services: Representation, Administration and Supervision, Passenger Services, Ramp Services, Load Control, Communications, Baggage Handling and Flight Operations.

TURKEY
ADIYATIK AVIATION SERVICES LTD
Meke Cad. No: 22/4, Taksim, Istanbul
Tel: +90 212 249 8000
Fax: +90 212 249 62 72
Email: adiyatik@adyatik.com
Website: www.adyatik.com
Services: Handling, Representation, Cargo and Fuel Services.

AirMark Aviation Marketing & Services
Yenibosna Merkez Mah.
Cinar Cad. No. 9 Kat: 2 34197
Bahcelievler/Istanbul
Tel: +90 212 444 1034 (472)
Fax: +90 212 245 44 86
Airline Ground Services

Summer/Autumn 2016

Aircraft Exterior Cleaning, Load Control and Dispatch.

Website: www.sharjahaviation.com
Fax: +971 6 558 0361
Tel: +971 6 514 1111
Airport Area 70888, Sharjah, United Arab Emirates

Accommodation, Flight Monitoring, Concierge Services.
Website: www.jetex.com
Email: info@jetex.com
P.O.BOX: 54698 DUBAI, U.A.E
Dubai International Airport Free Zone

Accommodation, Limousine and Wheelchair Services.
Website: www.ramjet.aero
Email: ops@ramjet.aero
Website: www.ramjet.aero
Services: Ground Handling, Permits, Fuel, Catering, Charter Services and Accommodation.

Dubai International Airport PO Box 1915
Dubai
United Arab Emirates
Tel: +971 4 218 6607/08
Fax: +971 4 218 6609/10
Email: groundhandling@dnata.com
Website: www.dnata.com

Dubai Airport Free Zone West Wing 3
PO Box 54508, Dubai
United Arab Emirates
Tel: +971 4 299 7777
Fax: +971 4 299 7770
Email: ops@hadid.aero
Website: www.hadid.aero

Dubai International Airport PO Box 6, BLOCK A – NO 807
PO BOX: 54698 DUBAI, UAE
Tel: +971 4 212 4000
Email: info@jetex.com
Website: www.jetex.com

Entebbe International Airport
Uganda

Tel: +256 41 432 1446
Fax: +256 41 432 307
Email: enhetas@enh.asa.aero
Website: www.enhas.com
Services: Quality Control, Training, Baggage, Passenger, Cargo, Courier.

Krymaaviation Ltd
Simferopol Airport Central, Simferopol St. Karl Marx, 49
Simferopol, Ukraine, 95491
Tel: +380 65 248 044 / +380 65 528 5895
Fax: +380 65 248 044 / +380 65 248 1010
Email: office@airlinkworld.com
Website: www.airlinkworld.com
Services: Catering Services, Traffic Handling, Dispatch, Entry and Landing Permission, Crew Accommodation, VIP Terminal Services, Crew Transportation, Baggage Handling, Refueling, Security, Flight Dispatch, Ramp.

RusAviation

Abu Dhabi International Airport PO Box 94445, Abu Dhabi, UAE
Tel: +971 2 505 5000
Fax: +971 2 575 8300
Email: info@dcanav.aero
Website: www.adac.ae

Al Ain Airport Services
Al Khailee Al Arabi St - Al Ain
United Arab Emirates
Tel: +971 2 505 5000
Fax: +971 2 505 5000
Email: info@dcanav.aero
Website: www.adac.ae

ASE Associated Services Experts (Member of the ASE group)
Dubai Airport, Dubai, United Arab Emirates
Tel: +971 4 2146 975
Fax: +971 4 2146 978
Email: ops@asea.ae
Website: www.asese.com
Services: Operational Support and Ground Handling.

TURKISH GROUND SERVICES

www.aero-airlinegroundservices.com
SKA International Group  
Office No: GB 030901  
Post Box: 2027  
Jebel Ali Free Zone Authority (JAFZA)  
Dubai  
United Arab Emirates  
Tel: +971 4 8840 800  
Fax: +971 4 8840 808  
Website: www.skainc.com  

**TRANSWORLD Aviation**  
Jebel Ali Freezone  
Plot 0608, Junction 13, JAFZA  
Dubai, UAE  
Tel: +971 4 8835888  
Email: info@twdubai.com  
Website: http://www.twd-dubai.com  
Services: Ground handling, Cargo Handling.

**UNITED AVIATION SERVICES (UAS)**  
PO Box 54482, Dubai  
United Arab Emirates  
Tel: +971 4 299 66 33  
Fax: +971 4 299 67 71  
Email: marketing@uas.ae  
Website: www.uas.ae  
Services: VIP Ground Handling, Quality GSE Usage,

**Aviation House, London Heathrow Airport**  
Aircraft Service International Group Ltd  
Website: www.asig.com  
Fax: +44 1293 530 600  
Tel: +44 1293 553 337  
United Kingdom  
4 New Square, Bedfont Lakes, TW6 3XO  
Tel: +44 208 750 6001  
Fax: +44 208 564 5330  
Services: Cargo Warehousing, Freight Handling,

**Global Flight Support**  
Wings 24 Ltd  
Wings 24 Ltd  
Website: www.wings24.com  
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