

Swissport's ground operations services include check-in and boarding gate management. Image: Swissport



First movers

Effective ground operations are crucial for low-cost and regional airlines. LARA investigates this fast-moving marketplace, where technological advances are boosting efficiencies and improving turnaround times, with significant potential for further development in the coming years.

There are a range of key providers in the ground operations market around the globe, many catering to the unique needs of low-fare and regional carriers.

Swissport's offering covers passenger services (check-in, boarding gate management, and lost and found services); ramp handling, including baggage sorting, cabin cleaning and aircraft pushback; and load control services, depending on airline preference.

The aim is to ensure safe, fast and reliable turnaround processes, optimising processes to suit the operational priorities of each carrier, always without compromising safety.

Philipp Müller, Swissport's Vice President

Global Operations, Ground Handling and Fuelling, says there are several challenges facing carriers in ground operations today.

First, he points to workforce availability, noting that in the post-pandemic period, "attracting and retaining skilled staff remains competitive".

In response, he says, Swissport has developed commitments to staff known as "Six Red Rules". These offer employees roster stability, career development opportunities, and robust training programmes.

Seasonal demand peaks can also be a challenge, with Swissport balancing the need for staffing models for these peaks with

meeting efficiency demands year-round.

Additionally, Müller points to the challenge of tight turnaround windows in the low-fare and regional space, which often operate on 25 to 35 minute targets.

The company uses standardised procedures, real-time communications, and experience from its operations at almost 300 airports to synchronise boarding, baggage and ramp processes.

Müller says: "Low-fare and regional airlines often operate on shorter turnaround times, with highly standardised procedures. Bulk-loading baggage, for example, requires precise coordination but fewer resources."

Data is now a critical operational asset in ground handling, he adds, with Swissport deploying an enterprise-wide Business Intelligence (BI) solution to integrate data from all areas for a holistic view.

Key applications include workforce optimisation – aligning the right staff-to-

passenger and baggage loads, rather than using fixed staffing models, if airlines agree. This can sometimes come down to a specific flight or day of the week, Müller notes.

He points to the benefits of technological advances in delivering operational improvements and increased efficiencies.

In particular, he highlights forecast-based planning, which is built on partnerships with airlines and adjusts resources dynamically according to flight schedules and passenger forecasts.

The company expects to see further innovations in all these technological priorities in the coming years, Müller says.

He flags up the potential for AI-powered knowledge access to provide staff with instant, up-to-date answers and visual guidance.

Another key area is predictive disruption management, which would use AI to forecast potential delays and operational disruptions, “enabling proactive measures that improve on-time performance and passenger experience”.

Finally, he points to the potential for innovation in baggage handling, “investing in automation and tracking technologies that enhance efficiency and improve customer experience while offering more solutions to airlines.”

‘DEEP TURNAROUND’

Menzies Aviation provides a wide range of ground operations support for low-fare and regional airlines, including ramp handling, baggage, de-icing and passenger services. The company works across 350 airports in 65 countries.

Miguel Gomez Sjunnesson, Executive Vice President – Europe at Menzies Aviation, says the company’s work for these customers has transformed over the past few years.

Highlighting technological advances, he points to the company’s deployment of “Deep Turnaround” in Amsterdam.

Deep Turnaround is an AI-driven monitoring platform that Gomez



Menzies Aviation provides a wide range of ground operations support for low-fare and regional airlines, including ramp handling, baggage, de-icing and passenger services. Image: Menzies Aviation

Sjunnesson says has “transformed how we manage aircraft turnarounds” by replacing manual calculations with precise real-time and predictive data.

The technology has boosted turnaround punctuality from 67 per cent in 2023 to 76 per cent in 2024. As of August 2025, the company was on track for 78 per cent turnaround punctuality in 2025.

Data in particular has become “one of the most important resources in modern ground operations”, particularly for low-fare and regional airlines, “where every minute and penny counts”.

The company aims to treat data as a strategic enabler, not an operational by-product, says Gomez Sjunnesson.

Highlighting the company’s international expansion, such as its acquisition of G2 in the US, he adds that this will help the company deliver innovations at a great scale and consistency across the globe.

These innovations must focus on sustainability, according to Gomez Sjunnesson, who notes that the company has taken an “electric first” approach to ground support equipment (GSE).

Electric GSE has the potential to cut emissions by about 80 per cent compared to diesel equipment, he says, with the company planning to expand the use of such platforms to new locations.

Menzies Aviation has increased electric motorised GSE to 24 per cent of its global fleet, including more than 50 per cent in Europe.

SAVING MINUTES AND SECONDS

WheelTug is among the technological innovators working to improve efficiencies across ground handling operations.

The company has developed in-wheel electric motors for commercial aircraft that could save seven minutes per flight on average, according to the company, or 20 minutes per flight with two-door operations.

WheelTug’s CEO, Isaiah Cox, says this translates into significant financial savings.

For instance, he points to data from Airlines for America, which found that in 2023 the average cost of aircraft operational time for US passenger airlines was USD 100.80 per minute.

“If you can reduce the time on the »»»

ground, then you're way ahead," he says.

Cox notes that the technology could also reduce congestion and speed up turnaround times for passengers, among other benefits.

WheelTug was completing certification with the FAA as of August 2025. Once this is done, it will be rolled out to customers who have already reserved the system, with more than 2,000 aircraft in its backlog, including for such airlines as Vueling and IndiGo.

The system has particular value for low-cost and regional airlines because they are likelier to fly out to airports that are not served by other carriers, meaning they are less likely to feature "a very slick and professional pushback core".

REAL-TIME VISIBILITY

Tarmac Technologies has developed Aircraft Ground Operations Assistant (AGOA), an all-in-one turnaround management platform for ground operations.

Anthoine Dusselier, the company's co-founder and CEO, notes that data is often broken into silos today. For example, airlines and ground personnel could lack structured data on the turnaround, apart from perhaps basic information such as the departure time.

AGOA provides an interface that offers information across all aspects of the turnaround, connecting relevant staff across the airline, ground handling operations and airports.

Operations are tracked live and notifications are automatically triggered on particular issues, producing real-time visibility for improved decision-making.

Importantly, AGOA also brings benefits in the post-flight phase, providing automated reports to help those using it to understand how they are performing, not just at a flight level but more widely in terms of processes.

Interfaces can be adapted to the particular stakeholder, with Dusselier noting that the aim is to address key challenges both in real time and in the post-flight phase.

This includes a lack of comprehensive visibility in real-time operations, while in the post-flight segment it includes a lack of data that could be used to improve future operations. Dusselier says low-cost and regional airlines in particular can suffer from a lack of resources internally at their HQ, with the ground operations department often being quite small and thinly stretched.

PREDICTING AND PLANNING

Meanwhile, Assaia's ApronAI Suite and TurnaroundControl solution are AI-enabled aircraft turnaround products that capture the activity associated with the turnaround in real time.

Sarah Owen, the company's VP EMEA, tells *LARA* the aim is to empower teams to predict, plan, and proactively improve turnarounds.

She says: "If there is an inevitable delay, it's shorter – because we know proactively ahead of time that a delay is likely, allowing operators to put mitigating steps in place."

According to data from Assaia's 2024 Turnaround Benchmark Report, AI-powered turnaround solutions can reduce delays by six per cent and add one extra aircraft turn per gate per day.

Likewise, real-time visibility and predictive alerts can help operational teams to act immediately, rather than reacting after delays escalate.

The company's AI technology helped Berlin Brandenburg Airport to cut delayed baggage events by 90 per cent, for example.

Owen says: "By aligning data across airlines, airports and handlers, we reduce miscommunication, encourage real-time communication and help carriers keep flights on time despite resource constraints."

Ultimately, she notes, low-fare and regional carriers face unique pressures that demand specialist solutions.

"Regional airlines, for example, might operate smaller fleets from regional airports which are likely to have less automation and ground staff available. Similarly, low-cost carriers largely run to tight schedules with minimal turnaround buffers, meaning even small disruptions can quickly escalate across their network, increasing costs and frustrating planned departure times and, ultimately, passengers."

Looking forward, Gomez Sjunnesson at Menzies Aviation says the company will continue to invest in technology and automation – including deploying robotics and trialling virtual reality to provide real-

WheelTug has developed in-wheel electric motors for commercial aircraft, eliminating the need for tugs, pre-taxi engine starts, engine start clearances and wingmen. Image: WheelTug





Assaia's ApronAI Suite and TurnaroundControl solution are AI-enabled aircraft turnaround products that capture the activity associated with the turnaround in real time. Image: Assaia

time warehouse visibility and predictive insights, which cut hours of manual work down to minutes.

He also points to the continuing advance of the Internet of Things (IoT) and telematics-driven GSE, which allow for

smarter scheduling, predictive maintenance and reduced energy use.

Sustainability will remain a fundamental part of the modern aviation industry, he adds, noting that Menzies Aviation has made year-on-year progress in reducing carbon emissions relative to revenue.

Balancing business growth with decarbonisation is challenging, but Gomez Sjunnesson tells *LARA* that by partnering with customers and airport partners "we can create strategic, measurable and actionable targets that empowers our airline customers and airport partners to deliver cleaner, more efficient ground operations without compromising on service or safety." ■

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