



POOL PIONEERS

Pooling Ground Support Equipment (GSE) and staff has long been seen by some as the answer to bringing greater economies of scale to this vital area of airport operations. Yet there have been relatively few concrete initiatives in airports around the world. **Gary Mason** reports



Ground handling was described in a 2014 industry overview as the “bottom feeder” of the air transport business. In part due to the cut throat nature of the business and very small margins

But as the CAPA Centre for Aviation study pointed out, this is perhaps an unfair description given that the global airport ground handling business is now estimated to be worth over \$80 billion per annum according to its trade association, ASA

Meanwhile, damage caused to aircraft during ground handling is reported to cost airlines nearly \$4 billion annually. The total cost to the aviation industry globally is thought to be more than double that figure. To begin to reduce this cost to the aviation industry, IATA has recently introduced Ground Support Equipment (GSE) Standards that require fitting of proximity sensing and warning systems to GSE vehicles and equipment

But making the operation of GSE safer is only part of major shifts taking place on the ground handling horizon

The CAPA report pointed out that one notable change in the ground handling business in the last 10 years is a growing propensity towards outsourcing by the airlines. This is in line with carriers’ desire increasingly to segment the market and processes in order to drive up ancillary revenues through baggage fees and in-cabin services, as well as outsourcing noncore activities (station management, ground handling, especially outside ‘home territories’) and thereby adding greater complexity to ground operations

A report prepared by ground handling specialist the Chris Smith Aviation Consultancy in 2013 argued that further opening of the market would have the opposite effect as turnaround processes will have been improved and optimised. Labour costs and working practices have been squeezed tight and further scale economies will be lost. Scale economies are driven by airline schedules

The research pointed out that a typical large European airport handling 15 to 20 million passengers per year has over 200 departures each day with a turnaround duration of 30 minutes and the aircraft are mainly Code C types to short-haul destinations. There will also be typically eight airlines or more. The report concluded that the crucial point is that their peaks usually do not coincide

One possible solution he put forward is of 'pools' of both GSE and of labour, the latter being a more challenging proposition. In the case of GSE the pool would include the airport operator, a consortium of ground handlers, a financial institution(s), and aircraft lessors or parts suppliers. The main benefit would be retention of current scale economies and a return to 'Single Provider' efficiency.

A labour pool would be justified by the fact that similar scale inefficiencies apply to labour in the event of more ground handling suppliers. Quantifying staff needed for a Code C turnaround over two shifts, Dr Smith identified 28 crews required by a single provider, 40 in the event of two handlers and 47 for three handlers resulting in a 15-20% reduction in scale economies.

In conclusion, Dr Smith said that it is highly probable that EU Regulation will require a further opening of the ramp market. A dynamic GSE Pool would allow these scale economies to be regained, in addition to having other advantages. Each Labour Pool would generate even greater cost savings, but would come with much bigger challenges. But he added that each Pool could cut costs by a third.

Of course the idea of GSE pooling goes back even further than this research and today there are a small number of airports operating live GSE pooling schemes. But the industry is still split on how effective they are. As pointed out in the 2013 study the key factor is that peaks in terms of airline operations at airports do not coincide.

Ground Support Equipment is usually owned or leased by the individual ground handlers with contracts to various airlines. This can include baggage trains, stairs, fuel trucks, conveyors, lifters, catering lorries, cargo lorries, toilet service units and portable water.

Every contractor owns and stores the necessary equipment to do their job for each airline. However, due to differing peak requirements from airlines and handlers, this can lead to more GSE being stored around the apron than is actually needed at any one time.

Proponents of pooling argue that this is where significant savings can be made. AiQ Consulting have been advising and guiding airports, Airline Operating Committees (AOC), airlines and ground handlers on the benefits of pooling ground support equipment for many years.

Through its contract as Airside Operations Planners in Heathrow, as well as various projects in other airports internationally, it says it

has a great deal of experience in Apron Modelling and GSE simulations.

It says GSE Pooling means having a central source for equipment to be used by all ground handlers regardless of contracts throughout the day. This means less equipment on the apron and less cost throughout.

For example, if one airline peaked in the late morning, and another in the late afternoon, but they used different ground handlers for various contracts, both sets of ground handlers' equipment must be used and stored around the terminal throughout the day.

The Consultancy states: "The key benefits for airports or AOCs that run this system are cost and space savings. Not only is less equipment required for general day-to-day use, there are also fewer requirements for contingency equipment. Ground handlers generally hold surplus equipment in case of unexpected peaks or problems, but holding a central stock generally reduces the need for extra.

"Therefore, one of the major advantages is space airside. For example, for a 20mppa terminal, analysis shows that equipment can be reduced by up to 24%. This space saving is also a cost one, as obviously as less equipment is required, less is spent on purchasing and maintaining."

WHAT ARE THE DISADVANTAGES?

It says that the only real concern some operators have with GSE Pooling is the management time and cost in pooling the equipment. The operation needs to be managed efficiently to make it work. Some ground handlers may also require their equipment to be guaranteed, and available only to them. This obviously reduces the available stock to other handlers so can impact on the cost and efficiency savings.

London Luton (LLA) is one airport that has introduced GSE pooling to increase efficiency and reduce cost.

The GSE pooling programme for London Luton Airport, which was launched in April 2017 in collaboration with the airport's two ground handling agents, Menzies and Swissport, and equipment provider TCR, is a global first on its scale, according to the airport. The initiative is designed to reduce congestion on stand and lead to greater efficiency in aircraft turnaround.

The rollout programme of the initiative at LLA means that each stand will be equipped with brand new, state-of-the-art GSE equipment.

"WITH A-CDM WE GATHER ALL THE RELEVANT INFORMATION ON EVERY SINGLE FLIGHT IN A SHARED CLOUD-BASED IT SYSTEM."



This equipment includes aircraft steps, ground power units and belt loaders along with other ancillaries such as chocks, cones, and passenger guidance.

Liam Bolger, Head of Airside at LLA, said, "LLA's work with its ground handlers in this area is a real industry first, no other airport in the world has taken the concept of equipment sharing to this level. As our redevelopment project continues and we welcome more passengers to the airport, efficient airside operations will be of paramount importance. We're excited to see the improvements the new system will bring to handlers, airlines and passengers alike."

TCR is a Belgian-based company that specialises in leasing ground support equipment (GSE) to ground handlers—the tugs, tractors and ground power units that keep an airport's ground operation functioning.

TCR operates in the market where "pooling" of GSE is demanded by airports because of environmental and traffic considerations. TCR actually pioneered the concept of fleet pooling at Heathrow in 2004. By collectively owning

and renting back an airport's GSE equipment, pooling effectively creates a single GSE operator at the airport.

It is no accident that Heathrow was one of the first hub airports to take a serious look at GSE pooling. The large number of handlers – nine at one point – operating at Heathrow was seen as an inefficient method of running ramp operations.

The first trials of pooled equipment involving air stairs at Terminal 4 were conducted in 2014/2015 using equipment supplied by TCR.

The stairs were equipped with telematics, so they could be tracked, and it was found that the pooled equipment was used efficiently.

Of course, another strategy when rationalizing GSE capacity is to reduce the number of ground handling agents operating at an airport or specific terminal.

When Heathrow opened its new flagship Terminal 2 facility in June 2014 it boasted a common check-in system for the 23 Star Alliance carriers who were the first to populate the new facility.

This meant that passengers for 23 different airlines were able to share the same check-in ca-

capacity and not be siloed off into different queues. This was the first time it has been done at any major airport in the world. Another first for T2 is that because there is a common check-in for Star Alliance passengers all the carriers are using the same ground handler to service that process.

Heathrow is by no means the only operator to have considered the potential benefits of GSE pooling – other airports around the world are investigating the possibilities or have even begun GSE sharing schemes. Copenhagen Airport is said to be very interested in GSE pooling, and it could form part of its recent (last year) status as an A-CDM airport.

Copenhagen Airport has more than 700 arrivals and departures every day – which represents a huge jigsaw puzzle that can be difficult to piece together if there are too many delays.

Copenhagen Airport's technical director, Christian Poulsen, emphasises that the whole jigsaw puzzle and the information chain around a flight are extremely complex – from the pilot to the control tower to the airport and the ground handlers who have to be in place to receive incoming passengers and their baggage – and be ready with check-in staff and baggage crews when the flight is due to depart.

"With A-CDM we gather all the relevant information on every single flight in a shared cloud-based IT system. This means that the airline, air traffic control, the ground handlers and the airport have continuous access to the same updated information on all flights. This will make the planning and use of resources far better – for both arrivals and departures," he says.

The higher level of shared information also enables better planning. The introduction of A-CDM has reduced costs for airlines and ground handlers by 10% at Heathrow.

An aircraft flying a regular service in Europe may have to make four to six flights in a single day. A single delay can have a knock-on effect over the course of the day, with the result that the aircraft is unable to complete all its scheduled flights, which means lost money and passengers.

However, A-CDM can handle punctuality as well as delays, and it can often be just as problematic when a flight arrives early.

It may be that all the ground handler's employees are busy taking care of other flights. And often the scheduled gate at the airport is not ready.