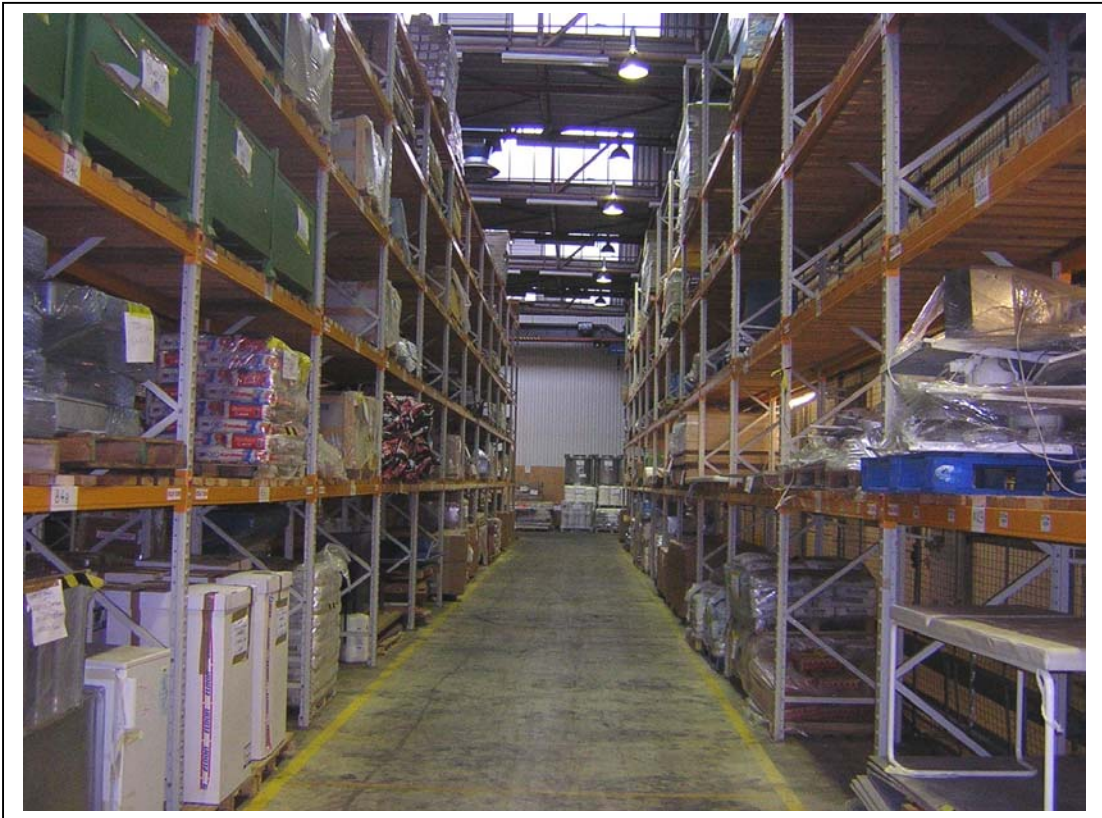


# Logistics Consolidation Centre Heathrow Airport

## Outline Briefing Paper



## Overview/Background

Wilson James Ltd. and Mace Ltd. have, with much success and acclaim, been operating the Logistics Consolidation Centre at Hatton Cross, Heathrow Airport for the last two years – on behalf of our Client, BAA.

This was a revolutionary concept and unproven within the construction industry. BAA showed great courage in trying a whole new methodology to service their major capital investment programme – methodology that has been developed and continuously improved upon during the operation of the centre.

Such has been the success, that the Hatton Cross model has become the ‘test bed’ for the Colnbrook Consolidation Centre, which will service the development of Terminal 5. Evidence, if any were needed, that BAA as an innovative Client is convinced of the benefits.

Elsewhere, the Logistics Consolidation Centre has attracted great interest. It has become an M4i Demonstration Project, has won a BAA Award for Sustainability in Construction, has generated innumerable testimonials in the industry press, has attracted support from Central Government (DTI), local Government (e.g. Mayor of London, Transport for London), academic institutions, other local authorities and stakeholder groups. A great example of ‘Sustainable Development’, the Logistics Consolidation Centre (LCC) can show demonstrable benefits – economic, environmental and social.

For those unfamiliar with the background, the principal driver for BAA prior to the establishment of the LCC was, “ how can we deliver our extensive capital programme on-time, on-budget, with minimum impact upon our customers (the travelling public and airlines)?”

Whilst a whole host of other benefits naturally ‘fall out’ out from the operation of the LCC (environmental, productivity benefits, safety improvements, and so on) - predictability and certainty are perhaps the greatest benefit of all to BAA. It has already been said that certain projects (e.g. Heathrow Terminal 1, South Extension), simply “could not have been delivered without the Consolidation Centre”.

## **How does the LCC operate?**

It is not the intention in this short paper to detail all the day-to-day processes, as these can be expanded on at a later time. However, the key basics are as follows.

The LCC operates from a 20,000 sq. ft. facility (former BA Engineering hanger), at Hatton Cross. It comprises both covered space for goods such as plasterboard, cement, fire alarms – together with outside space for materials capable of being exposed to weather, such as bricks, blocks, glass, etc.

For those unfamiliar with the operation, the LCC acts as a Distribution Centre for construction materials that are used on Heathrow projects, but it goes far beyond the often-cited misapprehension of acting as a ‘warehouse’ or a ‘builders merchant’. Goods are not ‘stored’ in the conventional sense (no more than 7 days is the ideal), neither are they replenished when reaching a ‘minimum re-order level’ – they are brought in only when about to be used on site. They are checked for quantity and condition, ensuring early highlighting of any problems.

Construction materials, and plant (excluding steel frames, ready-mix concrete, etc.), are delivered into the LCC during the daytime, in ‘relative’ bulk – prior to being ‘called-off’ by Trade Contractors (Suppliers), in the quantities required for use in the immediate future (in work-packs), following a ‘just-in-time’ philosophy. Many of the Heathrow projects require deliveries to be made at night, and often to sites with extremely constrained access.

The Unique Selling Point (USP) of the LCC, is that goods are delivered *not just to the site entrance – but too the workface*, by our material handling operatives. They are specialists in their field, and deal with all associated issues such as overall co-ordination of deliveries (to avoid ‘clashes’), ‘walking’ intended access routes, road closures, lifting plans, health and safety of site workers and the general public (erecting pedestrian barriers, etc) – and ensure that ‘order’ is created in the process. The LCC team manage the Supply Chain right to the point of use (or as near as is practicable given the constraints of the individual site). Trade Contractors are left free to concentrate on their core tasks, without worrying about the co-ordination and supply of materials to site, nor the need for specialist Tradesmen (often working in short production time ‘windows’) to be diverted away from production to assist with material handling.

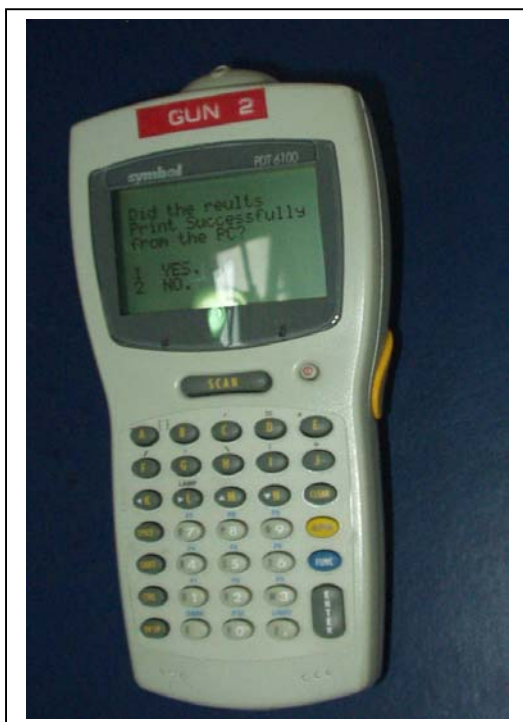
## Benefits

The LCC has successfully served more than 85 different Trade Contractors on 21 different Projects at Heathrow.

From inception a strict programme of recording KPI's has been carried out, and these have been updated and revised to provide a better understanding of the benefits the LCC brings (performance 'dashboards' are available). Ambitious performance targets have been set, and achieved – measuring, for example 'right goods, right quantity, right condition, right place, and right time' – with the emphasis on continuous improvement.

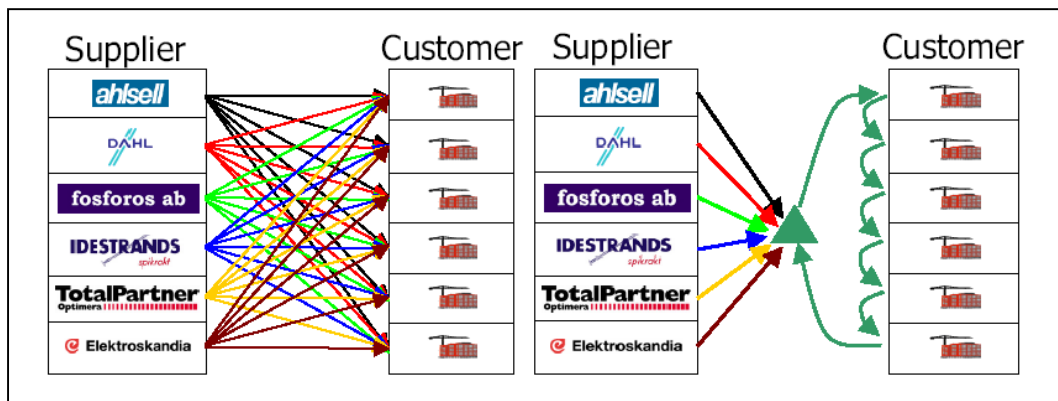
New techniques and processes continue to be adopted (high-tech and low-tech). For example we were amongst the first in the construction industry to trial, report on, then roll-out the use of Bar-coding of materials (not just for identification of goods – a headache in itself – but for delivery validation on site). Benefits include 100% 'pick' accuracy and robust audit trail (location, time and date validated) of goods delivered too site.

We were amongst the first in the construction industry to evaluate and implement the use of new mechanical handling equipment such as the 'Stairclimber'. This is a powered 'sack barrow' which (for use where no better access, such as a lift or hoist is available), can shift loads of up to 130kgs. – Up or down a staircase at 30 steps per minute, single-handed. Not only does this bring productivity benefits of up to 100%, but important safety benefits (reduction of manual handling injuries).



## Benefits (continued)

- Reduced vehicle movements onto site, minimising congestion and vehicle queuing
  - Loads are ‘consolidated’, so that in place of multiple vehicles, multiple loads are taken on one vehicle (addresses environmental requirements – reduction of congestion, pollution, CO<sup>2</sup> emissions).
  - Deliveries to ‘airside’ locations are seamless (drivers know exactly where to go, no vehicle escorts / airside vehicle passes required – saves time and money)
  - Brings ‘order’ to congested drop-off points (no ‘free for all’ between trade contractors)
  - All deliveries co-ordinated (including goods not routed through the LCC), taking into account road closures, crane lifts, etc – avoids ‘clashes’



- Minimising the storage of materials (and plant) on site
  - Brings greater safety – trades not working ‘around’ materials
  - Reduces damage – goods not ‘bashed’ by other trades
  - Reduced waste – only goods which are required for use are called forward to site (usually over-ordered goods are ‘skipped’)
  - Reduced waste – all packaging (except essential transit packing) is removed prior to delivery to site.
- Reducing time spent at each stage of the process – how much does that time cost? How much time is usually spent dealing with materials – often receiving them unannounced, chasing up orders, counting and checking quantities and condition? This task is often performed by skilled craftsmen taking them away from key added-value activities and adding to the real cost of the project.

## Benefits (continued)

- The Consolidation centre acts as a vital production ‘buffer’ – especially for materials with long or complex Supply Chains, (for example goods from overseas – glass from Austria [Schmidlin], lifts components from Finland [Kone]). Bringing goods such a distance is a complex logistical feat in itself, but to also time the arrival of goods to site at exactly the right time can be near impossible. The consequence is that they often either fail to arrive at the right time, or in such bulk that they over-load the site.
- Proven productivity benefits have been demonstrated, not *just* from an ordered delivery process, less congested sites, fewer damaged goods – but also from simply the *availability of goods on-site, in the right place, right time right condition*. Using the ‘Last Planner’ tool, comparisons have been measured between effectiveness of projects both before, and after, the introduction of the Consolidation Centre. Amongst the many possible reasons why planned productivity may not have taken place (e.g. inclement weather, lack of labour, etc.) - one of the most frequent reasons has been shown to be simply the lack of materials being available to be used. Gains of **up to 5%** have been measured by virtual elimination of problem.

