Air Dispatch and Finnair

Case Study

A customer success story on the benefits of centralising load control operations and using cutting edge technology to drive change

The challenge

Managing costs, environmental responsibility and passenger safety - all at the same time

Faced with the considerable challenges of increasing fuel prices, a deepening sense of environmental responsibility and an absolute requirement to ensure the safety of passengers at all times, airlines are turning to technology to improve a fundamental part of their ground handling operations – load control.

One of the main operational challenges an airline faces is minimising fuel consumption as this has considerable impact on both costs and environmental responsibility. The purpose of an airline's load control system is to produce an accurate Estimated Zero Fuel Weight calculation (EZFW) to ensure that the correct amount of fuel is loaded. With traditional load control systems, over estimates in EZFW computations can be common, causing the aircraft to take off with too much fuel and resulting in expensive wastage. Aircraft must also be loaded within strict balance limits for safe flight, however further fuel savings can be gained from optimising load distribution of passengers and cargo within these limits.

With the exception of system costs, the single biggest outlay in the production of a load sheet are labour costs and this is easy to understand when taking a closer look at the convoluted processes that surround the production of a load sheet in a traditional load control system. Fuel figures might be calculated via a flight planning system, transmitted electronically to a crew briefing room where they are read and confirmed by the Captain, before being given to a ramp agent who transmits them, via word of mouth or teletype message, to the load controller who inputs them into the DCS system. This practice is both time consuming and is open to the risk of human error in the data entry stage. Add to this, a decentralised process where there are large numbers of staff producing small volumes of load sheets, again with the increased possibility of error, and it is clear that there is a strong case for automated, centralised load control.

amadeus

Your technology partner

The solution

Altéa Departure Control Flight Management

In 2007 Finnair was the first European carrier to select Amadeus' Centralised Load Control (CLC) solution, known as Altéa Departure Control - Flight Management (or Altéa DCS - FM). From the outset, Finnair decided to address their decentralised load control process and outsource the entire load control operation to two centralised hubs: the European part of their business (representing 60% of total flights) went to Air Dispatch, whilst another aviation company manages the remainder of the business out of Bangkok. The first step was to establish a project task force with Amadeus. Finnair and Air Dispatch then tailored the Amadeus technology to Finnair's specific requirements. At the same time Air Dispatch located and set up a dedicated control centre in Prague from which to manage Finnair's CLC operations. Then, following a successful pilot phase, Altéa DCS – FM was fully implemented across the entire Finnair network in early 2008, and Air Dispatch began to handle the European load control operations for Finnair, representing some 54,000 load sheets per year.

The expertise and experience gained in this migration equipped Air Dispatch with a unique skill set which it was then able to offer other airline clients, establishing Air Dispatch as an important implementation partner for Amadeus Altéa DCS – FM.

Commenting on the outsourcing of load control operations, Kari Pauro, Altéa DCS Project Director for Finnair commented: **"Altéa Departure Control – Flight Management has proven to be a stable and user-friendly system. Altéa Departure Control – Flight Management enabled Finnair to implement centralised load control process, where flights are managed in two load control centres (located in Bangkok and Prague). This new process has clearly improved productivity. It has improved fuel savings thanks to more precise estimated zero fuel weight calculations."**

Altéa DCS-FM next generation load control system enables Air Dispatch to make direct entries into the DCS system substantially reducing the time required for each controller to prepare Finnair's load sheets and limiting the risk of transcription errors as a result of the data having to pass through a chain of contributors.

In the words of Nick Yeadon, Managing Director, Air Dispatch, Altéa DCS - FM has changed the game plan, requiring a rethink of processes to get the best out of centralised load control: **"Previous systems were led by the load controller; but Altéa leads the load controller"**, he says.

"It is Altéa [Departure Control System] because nobody else has caught up with this yet... this is cutting-edge load control... it's been designed with load controllers in mind."

Nick Yeadon, Managing Director,
Air Dispatch

Key results

Measuring Success

From day one, Air Dispatch has operated +99.9% on-time departures using Altéa DCS – FM. However as the first European users of Altéa Departure Control – Flight Management technology, both Finnair and Air Dispatch were keen to measure other results and monitor the progress of the changes made to their load control operations.

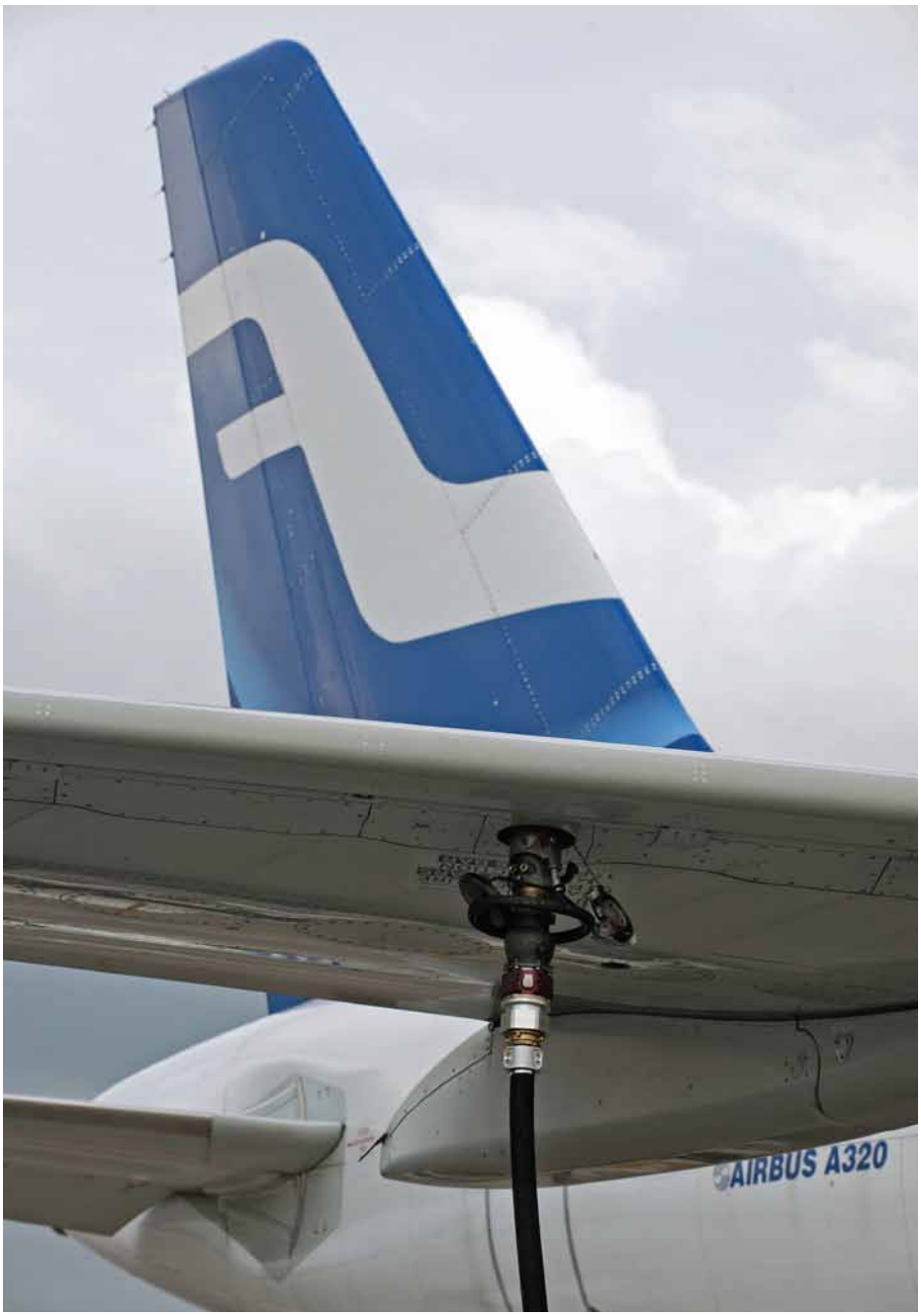
Fuel optimisation leading to a reduction in CO_2 emissions, cost reductions and a greener future

Combining accumulated historical data with load controller expertise, Altéa DCS - FM provides load controllers with reliable Zero Fuel Weight calculations and baggage distribution recommendations to optimise the aircraft's weight and balance. With the correct amount of fuel on-board, Air Dispatch can help ensure cost savings are achieved for the airline, as too much fuel carried equates to additional, unnecessary cost. Altéa DCS – FM has enabled Air Dispatch to achieve substantial fuel savings for Finnair.

Kati Ihamäki, Vice President Sustainable Development at Finnair explains how Altéa has directly contributed to Finnair's 'need to be green' by dramatically reducing estimated zero fuel weight errors. These occur when the gap between estimated and actual ZFW figures * is large enough to require modification in the fuel uplift. **"The number of ZFW error records has been reduced by a massive 48.5%... taking the number of errors records from 3.59% to 1.85% of all cases."** The upshot of this is that Finnair has reduced unnecessary fuel burn by 33.7%, contributing to Finnair's overall emissions reduction target of 41% per passenger seat between 1999 and 2017. In terms of CO_2 savings this equates to driving a car more than 60 times around the world.

By helping airlines optimise fuel consumption, CLC operators are directly contributing to a reduction in CO_2 emissions, which the aviation industry has a huge responsibility to address.

In addition, working online helps Air Dispatch work towards a paperless environment which is in line with IATA's objective to reduce the use of unsustainable resources in the airline sector.



"The number of Zero Fuel Weight error records has been reduced by a massive 48.5%... taking the number of error records from 3.59% to 1.85% of all cases."

Kati Ihamäki, Vice President Sustainable Development, Finnair

* **AZFW.** Actual Zero Fuel Weight of an aircraft. It is the weight of the aircraft at departure, excluding fuel.
EZFW. Estimated Zero Fuel Weight of an aircraft. It is the estimated weight of the aircraft before departure, excluding fuel.

More on key results

Staff Productivity

Air Dispatch have estimated that airlines using decentralised manual load control processes can manage about 10 load sheets in an 8 hour shift and are subject to the high risk of data entry error. This increases to 25 sheets for airlines using cryptic DOS-based systems which use complicated entry codes and require in-depth user training. This is where most airlines are today. Only in a next-generation Windows environment, where stakeholders operate in a shared community, can load control processes be fully centralised resulting in optimised productivity, and an output of up to 75 load sheets per load controller shift.

The above productivity output scenarios can be translated into the following tangible proof points:

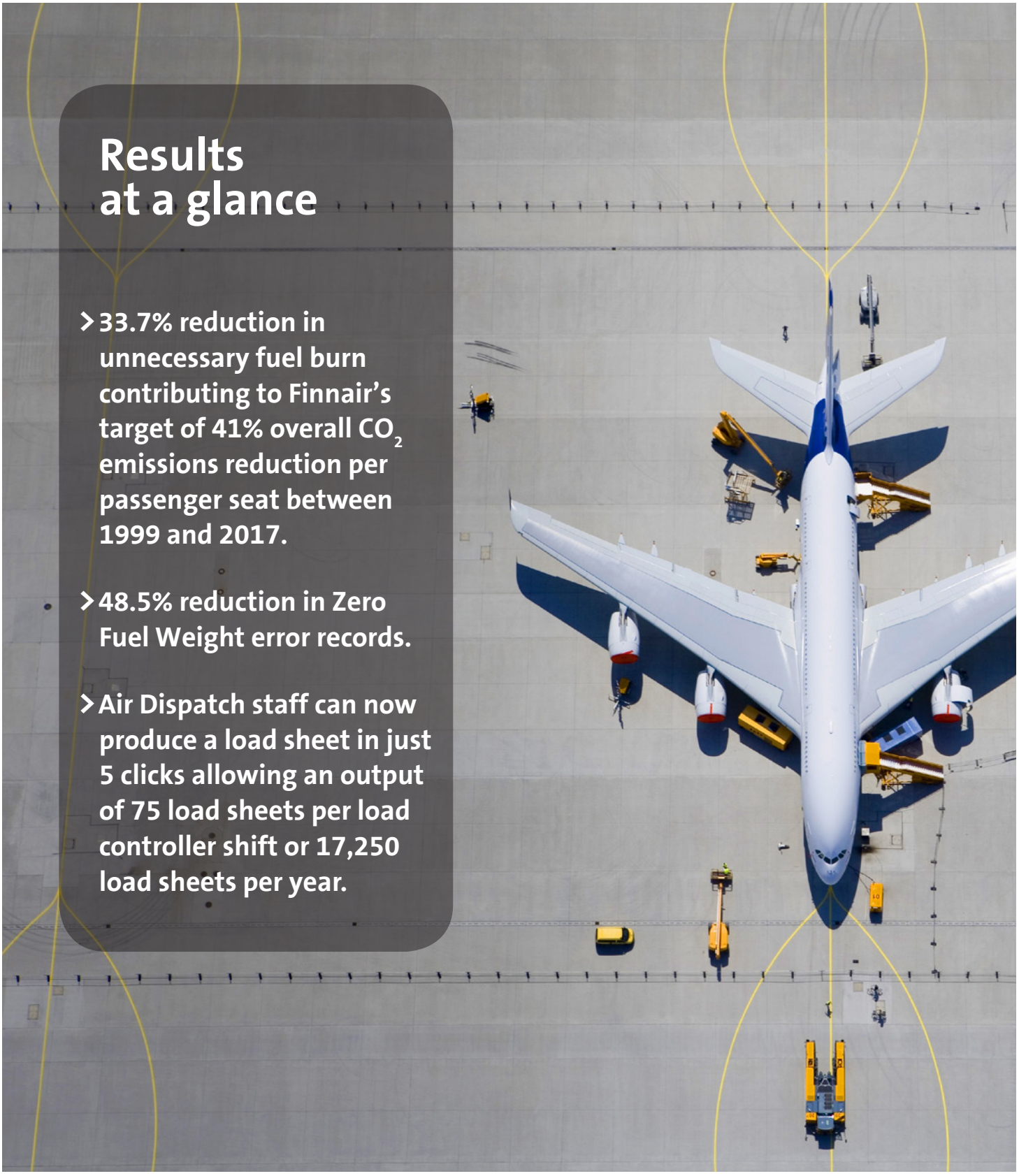
- In a decentralised environment, an airline with 50 stations and a 3 times-a-day operation would require 200 highly trained staff to generate about 50,000 load sheets a year. Using Altéa DCS - FM, Air Dispatch manages this same work load with 10 staff.
- In a decentralised environment using a legacy DCS, an airline load controller produces between 10-25 load sheets per day or 2,300 – 5,750 load sheets per year. Compare this to the Air Dispatch CLC operation where the load controller can produce around 17,250 load sheets per year for that same airline, whilst performing load control functions for a number of other airlines in parallel.
- Previous load control applications required lengthy and expensive staff training. With Altéa DCS - FM, Air Dispatch load controllers can be trained in just five days, thanks to the user-friendly Windows based GUI and drag & drop technology. Load controllers are now away from operations for a very limited period of time, and return to work proficient in using the solution.
- Newly-trained Air Dispatch load controllers began by working on 20 Finnair flights a day, this quickly rose to 50 and the most experienced load controllers now manage up to 75 load sheets daily.
- With load control stakeholders entering their own data directly into Altéa DCS - FM, Air Dispatch load controllers can better use their skills to produce speedier and more precise flight analysis results. It then takes just 5 clicks to produce a load sheet.

Safety

- Stakeholders involved in the load control sheet production process enter their figures directly into Altéa DCS – FM, reducing the chance of transcription errors and potential fuel and loading errors, which could have a dangerous impact on flight safety.

Flexibility of operations

- In a centralised environment, the geographical location of Air Dispatch's operations is not constrained by where Finnair's flights are operating to and from. They can select locations based on factors such as good bandwidth, reliable connectivity and low risk of disruptions.



Results at a glance

- 33.7% reduction in unnecessary fuel burn contributing to Finnair's target of 41% overall CO_2 emissions reduction per passenger seat between 1999 and 2017.
- 48.5% reduction in Zero Fuel Weight error records.
- Air Dispatch staff can now produce a load sheet in just 5 clicks allowing an output of 75 load sheets per load controller shift or 17,250 load sheets per year.

Tips from Air Dispatch to airlines considering decentralisation

Airlines preparing for a generational change in load control should consider the following:

- Allow sufficient time for planning, implementation, testing and training.
- Treat the process of centralising load control activities and implementing Altéa DCS – FM as two separate projects, which can of course run in parallel.
- Involve all stakeholders including internal (e.g. human resources) and external (e.g. Civil Aviation Authority) parties.
- Encourage staff buy-in by demonstrating the product and explaining the new processes.

And a final word of advice from Nick Yeadon, Air Dispatch.

"Of course centralisation of load control requires an airline to change its operational procedures, rewrite its processes, improve communications at all stations and address staff issues. But with staff costs and fuel costs representing the two variables that often prove to be an airline's downfall, what's a little process reengineering hassle compared with crippling costs?"

About Finnair

Finnair, one of the world's oldest operating airlines, was established on 1st November, 1923. Its operations focus on transporting passengers between Europe and Asia, via Helsinki.

Finnair Group operations cover scheduled passenger traffic and leisure traffic, technical and ground handling operations, catering, travel agencies as well as travel information and reservation services. The number of personnel of Finnair Group is approximately 8,000. The subsidiaries provide air traffic support services or operate in closely related areas.

Finnair's major shareholder is the Finnish government with a 55.8 per cent holding. Other shareholders include insurance companies, various companies and private individuals. Approximately 20 per cent of the shares are owned by foreign shareholders.

During the calendar year 2009 Finnair carried a total of 7,433,000 passengers. Cargo and mail carried by Finnair in the year 2009 totalled 89,234 tonnes.

Route network

In recent years, Finnair has emerged as a major player in traffic between Europe and Asia. Finnair's European route network offers several daily frequencies to all major European cities.

Finnair also flies to 12 destinations within Finland. The domestic route network is one of the densest in the world in relation to population.

In addition to regular scheduled traffic, Finnair operates leisure flights to more than 60 destinations. Leisure traffic flies mainly to holiday resorts in the Mediterranean, the Canary Islands, South-East Asia as well in the Caribbean and South America.

FINNAIR

About Air Dispatch International

Air Dispatch is a service-driven aviation support company, offering a wide range of cost-effective services to passenger and cargo airlines worldwide. Air Dispatch has an international network of offices providing outsourced station management, ticketing, centralised load control, flight management and other outsourced airline operations. One of their 'claims to fame' is that they supervised the handling of the Olympic torch as it was taken around the world in 2004!

Air Dispatch began using Altéa Departure Control - Flight Management to provide centralised load control services to Finnair in 2008, and the company's Managing Director - Nick Yeadon - is a firm supporter of the technology, delivering seminars on the benefits of Altéa Departure Control – Flight Management around the world.

Air Dispatch international

Find out more!

In just four years, Altéa Departure Control – Flight Management has become the most popular flight weight and balance solution in the industry. For more information on this solution, please access our dedicated web page: **http://www.amadeus.com/AlteaDCS-FM** or contact your Amadeus Account Manager.

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