

## Latest alliance convolutions

It would appear that Star is in the ascendancy. This is partly because the Lufthansa, United and SIA are all the best or close to the best financial performers in their respective regions. It is partly because Star gives the impression of cohesiveness and common purpose.

On the Atlantic Lufthansa and United will soon start up their first true joint venture service (Dusseldorf-Chicago) à la KLM/Northwest. The two airlines are seeking what Chris Tarry, analyst at Commerzbank, describes as a state of "double indifference" whereby it doesn't matter whose aircraft an alliance passenger flies on.

Star is also winning the high-profile battles. Onex's leveraged attempt to merge Canadian with Air Canada failed on a legal technicality. But it would very probably have failed anyway as United and Lufthansa had backed Air Canada with equity stakes (financed through stock buy-backs) and would have raised the stakes further if Onex had persisted.

American makes the valid point that the two Star airlines are stuck with the costs of the stock buy-back, and that this has set a precedent for unplanned equity purchases in other weaker Star members (Thai's privatisation, for example). But American is in a more difficult situation. Does it give up its position in nearly-bankrupt Canadian, so devaluing its investment in the Vancouver gateway and losing the Sabre contracts, or does it fight Air Canada's new bid for its national rival?

American's other alliance moves are scarcely conducive to harmony in oneworld, despite the recent AA/BA codeshare applications. As well as continuing to explore closer links with US Airways, it has now applied for antitrust immunity for its new alliance with Swissair/Sabena, a development which BA says it is not worried about. However, as *Aviation Strategy* has argued in previous issues, this will be a very significant move giving American the potential of building frequencies at relatively uncongested Brussels hub in some degree of competition with Heathrow.

So will SAir now join oneworld? The answer is probably not, but SAir is suspected of exploiting its indeterminate status re oneworld in negotiations with some of its new alliance partners - perhaps giving LOT the impression that it was heading in that direction and so assuring the Eastern European airline of a place in a global alliance.

Meanwhile, British Midland's imminent Star entry is causing aeropolitical repercussions. The clear desire for Star transatlantic services from Heathrow is giving further impetus to the EC's policy of negotiating a transatlantic open skies agreement (see page 6). Alitalia has also now come out strong in support of such a policy, seeing the necessity of this radical regulatory change for its virtual merger with KLM to succeed. Should Virgin Atlantic reluctantly give up its independence and join up with Air France/Delta or Star, then the pressure on the UK authorities to concede on Bermuda 2 will be extremely powerful.

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### Anxiety in Seattle

This time last year there was a lot of commotion in Boeing over scrutinising programmes to see if they were creating or destroying value. Since then about the only decision of note has been to get out of helicopters. Boeing's ageing cash cow, the 747, still trundles down the line at Everett, but at a rate of only two a month now, raising questions about how long it can continue to sell. Meanwhile, at the other end of the product range a dearth of orders for the ex- MD 95 (the only customers are AirTran and TWA) is raising questions about whether that can be continued.

Although it is called at the Boeing 717 it has nothing in common with the rest of the range, which is a key reason why Boeing lost at British Airways to the A318 which of course is a member of the highly compatible A320 family. The blunt truth is that Boeing is bound to hang on like grim death to the 717 programme, because the cost of cancelling would be high in the short term.

It would have to make compensation payments to a number of risk-sharing partners in the aircraft's supply chain in the event of cancellation. This would have to be taken by Boeing as a provision against profits. And that might be just one provision too many for Wall Street.

Boeing's recovery from its production chaos two years ago (when it made write-offs totalling \$4bn) has been impressive. But this performance has been marred by the re-appearance of some quality problems, which surfaced in the same week as the EgyptAir crash, creating added unwelcome publicity.

The second blot on Boeing's recovery has been the way Airbus is quietly eating its lunch in orders. Boeing still delivers two out of three aircraft, but now Airbus is landing two thirds of orders so far this year. Indeed, Airbus is quietly confident that its order backlog is now greater (in unit terms, if not in dollars) than Boeing's, largely due to the good sales record of the A320 family. Against this background of market slippage, a write-off against the 717 programme, running, as it would, into hundreds of millions of dollars, would put chairman Phil Condit under intense pressure. It would also dent Boeing's stock price - Boeing's stock has in fact outperformed the aerospace index but the index has been

depressed by the gloomy condition of Lockheed Martin and Raytheon.

If this were all Boeing's problems, it would be enough. But it also faces tough competition to the ageing jumbo - the 747 is now a 40-year-old design. On the one hand, the scaled-up and long-range versions of the A340 are raking in orders, while Boeing's 777 ultra- long-range has yet to find a single launch customer, which it was supposed to do months ago. On the other, for the first time a wholesale challenge to the 747 is really shaping up in Toulouse, after a decade of shadow boxing (including collaborative talks with the Airbus partners about a joint-venture very large aircraft, which Airbus now interprets as a stalling tactic).

### Mumbo-jumbo

Anyone now seeking an indication that the A3XX will actually be built should keep his eyes trained on ...Seattle. Now that the Airbus board is about to give managing director Noel Forgeard authorisation to offer the 550-650 aircraft to airlines at its meeting on December 8th, the signs coming from Seattle are significant. Boeing's product planners are now boasting that they have a 747X which will undercut the new European offering in terms of direct operating costs. Given that Airbus is aiming to be one fifth cheaper than the 747-400, this is a bold claim for a derivative type.

Whatever the truth of these claims, Boeing is at last taking the Airbus challenge to its monopoly at the top end of the jetliner market very seriously. For several years it has been trying to pour scorn on the idea that there is a real market for an ultra-large carrier. Now it appears to accept that there is one for about 1,000 aircraft over the next 20 years, not much less than Airbus's estimate of 1,200.

Airbus is seeking to line up about 40 orders, two years' worth of initial production, before it presses the button to proceed. French and German investment aid for one third of the package has been lined up, and British approval should soon be forthcoming. British Aerospace, is haggling with the British Treasury over interest

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rates at the moment; the Chancellor of the Exchequer Gordon Brown is pretty hostile and objects to the low Eurozone rate of around 4% that BAESYSTEMS (as it has re-named itself) wants on the repayable launch aid.

But no one doubts that the money will be forthcoming, easing the way to the launch. BAe has made clear it would take the wing manufacture work to Canada and Italy, where the local aerospace industry is hungry to join up with Airbus. BAe claims that by lending £500m (\$825m) for the A3XX the British government safeguards 62,000 jobs and creates another 20,000. There is doubtless more than a small measure of propaganda in such numbers, but Prime Minister Tony Blair, for one, has got the message that aircraft manufacture is as mobile as car-making, where the car companies rake in non-repayable government grants before they modernise or extend their European factories.

### Squabble in Toulouse

Of course, the year could not possibly end at Airbus without another internal squabble. This time it is over the job of the chief executive, Noel

Forgeard. Aerospatiale/Dasa, owners of 80% of the consortium, now just want to treat Airbus as a subsidiary by putting M. Forgeard in charge of their combined Airbus division while he is still boss of the consortium.

BAe, unsurprisingly, objects because there are still asset valuations to be done and deals to be struck before Airbus changes from a consortium to a company. In particular, it is after more than a 20% stake in the Airbus company because its Airbus assets to go into the company pool are, it claims, more profitable than those of its partners. So it has taken over the traditional French role of delaying the conversion of Airbus into a Single Corporate Entity (SCE).

Some consortium people in Toulouse think that the Franco-German creation of EADS makes the SCE unnecessary. Airbus may well become simply a subsidiary of EADS, but first the British minority shareholder will have to be placated. Needless to say, the longer this wrangling goes on, the better it all is for Boeing, since conversion to an SCE could take at least \$1.6bn out of Airbus production costs by improving its stock-turn and cutting working capital needs.

## What is launch aid?

**U**K launch is basically a hang-over from the inglorious days of state intervention in industry. The rationale for launch aid was that it remedied a market deficiency in the provision of investment for companies to undertake large-scale projects that only generate a return in the long-term.

Launch aid is not a simple subsidy. The DTI has in the past set high interest rates (6-8 points above the inflation rate was the norm) on these government funds. The aids usually become repayable when the aircraft are delivered (so if an aircraft fails to sell there are no repayments).

In the UK launch aid was distributed liberally to BAe and Rolls-Royce in the 70s and the early 80s. However, the situation changed rapidly in the Thatcherite years when these two companies, following final government capital injections, were privatised. No significant launch aid was provided to the UK aerospace or aeroengine industries while repayments (levies) to the government reached substantial totals. However, the 1997 change in government heralded a change, despite

New Labour's adherence to free market principles.

This table summarises the current situation regarding launch aid paid and levies received - on the A320, considerably more cash has been repaid than received but the other, newer programmes are clearly in deficit.

In BAe's case at least launch aid has been the subject of much internal debate. At normal launch aid interest rates, these funds would be expensive, despite the uncertainties of the A3XX project - hence the new lower rate that it is demanding. One of the arguments for applying for launch aid is political: it is perceived as an expression of the UK's commitment to pan-European projects.

**UK BALANCE OF LAUNCH AID FUNDING, 1998/1999 (£m)**

Programme	Launch aid	Levies	Balance
<b>A320</b>	249.3	334.6	-85.3
<b>A330/340</b>	447.1	7.3	439.8
<b>RB211-535</b>	261.8	123.0	138.8
<b>RB211-524</b>	177.6	105.8	71.8
<b>V2500</b>	60.0	17.5	42.5
<b>Other</b>	17.7	0.0	17.7
<b>TOTAL</b>	<b>1213.5</b>	<b>588.2</b>	<b>625.3</b>

*Note: Negative number means net payment to government by manufacturer.*

### Outlook for the PRC's airlines

In November China (PRC) finally reached agreement on joining the World Trade Organisation (WTO), potentially bringing the country into the capitalist world and opening up full trade relations with the US. Its airline industry - in particular the Big Three, China Southern, China Eastern and Air China - is going to have to rationalise rapidly to meet the new challenges. Recent and future developments in this sphere have just been analysed in a comprehensive report by Deutsche Bank\*.

Over the last few years, most of China's airlines have aggressively added capacity in anticipation of fast-growing markets. Domestic ASKs rose by almost 50% during 1994-98 but demand has not kept pace, even before the impact of the Asian crisis.

However, the mainland airlines have now started to curtail capacity, largely under instruction from the aviation regulator, the CAAC. Key factors include:

- A freeze on new aircraft purchases and a postponement in deliveries until 2002 was imposed by the CAAC in February 1999;
- A less growth-obsessed and more commercially-orientated management mindset following the Asia crisis has resulted in a greater willingness for domestic airlines to cut back excessive capacities through the disposals of older aircraft, early retirement of leased aircraft, and short-term leasing out of aircraft;
- The conversion of more passenger aircraft into dedicated freighters to operate on regional and international routes;
- A reduction in the number of flights on routes with low load factors - the CAAC has demanded cutbacks on routes where the passenger load factors is less than 60%.

Overall, capacity in China is expected to decline modestly, by approximately 4% this year, despite previously ordered aircraft continuing to be delivered. In 1999, China's airlines are expected to take delivery of 43 aircraft, while 65 older aircraft should be removed from service during the year. In 2000

a further fall of 5-6% due to the expected removal of some wide-body aircraft and more cuts in the number of scheduled domestic flights.

China Southern, having taken delivery of three A320s in August, has no further expansion plans. Indeed, it is looking for sub-lease opportunities for some of its 777s (two have been leased out on short terms to Biman Bangladesh and another two to Cathay), while Swissair is currently operating two of its A320s.

China Eastern is still planning on a net capacity increase, though modest by past standards. It will dispose of 13 MD-82s by the end of next year but it will lease in ten A320s.

Air China has signed an Lol for the sale of four 747-200s, has leased out three A340-300s to Cathay Pacific, but intends to lease in three 777s for 3-5 years.

### Consolidation

There has been considerable discussion over recent months about potential mergers within the PRC airline industry. Southern Airlines Group (the parent of China Southern) confirmed earlier that the company has been in discussions with Air China about a possible merger of the country's two largest airlines. Other speculation has had China Eastern looking at a take-over of Shenyang-based China Northern and Xian-based China Northwest, while CNAC has been linked with a take-over of Chengdu-based China Southwest.

The main issue is whether a merger of the country's two largest carriers will be the first step of a profound restructuring of the industry and will result in the industry rationalised into a few major airline groups, possibly led by the top three - Air China, China Southern and China Eastern.

The Chinese industry is currently highly fragmented. Of the 34 carriers operating under the CAAC, only 12 have a market share

\* *China Airline Sector*, produced by Deutsche Securities Asia Ltd., Oct.27th, 1999

in excess of 1%. China Southern, Air China and China Eastern between them controlled over half of China's total passenger traffic. The three second-tier airlines, China Northern, China Northwest and China Southwest command a further 20%. The other 14 carriers - the largest of which are Yunnan Airlines, Hainan Airlines and Shanghai Airlines - are left to compete among themselves for the remaining share.

Although the big three six may appear large within the content of the domestic market, on a global basis they are still minnows. For instance, ranking China's airlines on a global basis based on traffic (RPKs) is only 24th. China Southern, the largest airline, is just over half the size of Cathay Pacific.

Consolidation through acquisitions and mergers will take time - particularly since many airlines wish to hold onto their independence and to maintain jobs. Major obstacles that need to be overcome include:

- Many smaller carriers are controlled and funded by provincial governments, which are accustomed to collecting taxes from "their" airlines;
- Most airlines in China, including the majors, are highly geared and hence would find it difficult to generate sufficient amounts of cash to embark on major acquisitions; and
- The wide array of aircraft types currently employed by China's airlines would undermine the potential for cost savings from mergers.

The proposed merger between Air China and China Southern could help quicken the pace of industry consolidation and result in more disciplined growth for the domestic aviation market. The combined operation of Air China and China Southern would account for about 41% of total domestic traffic in China, significantly ahead of its closest competitor, China Eastern, which has a market share of only 16%.

The proposed merger should result in a direct feed of international passengers from Air China's international network into China Southern's comprehensive domestic network. The new airline should also benefit from the new ASA recently signed between the US and China, which allows the number of weekly round-trip flights between the two countries to double from 27 currently to 54 by April 2001.

### MAINLAND CHINESE AIRLINES

	Pax. (m) 1H99	RPK (bn) 1H99	RPK share 1H99
China Southern AL	6.98	8.56	21.9%
China Eastern AL	4.04	6.12	15.7%
Air China	3.05	7.25	18.6%
China Southwest AL	2.19	2.92	7.5%
China Northern AL	2.07	2.94	7.5%
Yunnan Airlines	1.76	1.67	4.3%
China Northwest AL	1.27	1.70	4.4%
Hainan Airlines	1.10	1.17	3.0%
Shanghai Airlines	0.99	1.26	3.2%
Sichuan Airlines	0.60	0.80	2.1%
Xinjiang Airlines	0.58	1.32	3.4%
China Xinhua AL	0.54	0.66	1.7%
Shandong Airlines	0.46	0.50	1.3%
Shenzhen Airlines	0.42	0.57	1.5%
Wuhan AL	0.42	0.38	1.0%
CNAC Zhejiang	0.39	0.40	1.0%
Zhongyuan AL	0.24	0.25	0.6%
Quzhou Airlines	0.18	0.31	0.7%
Air Great Wall	0.14	0.17	0.1%
Changan Airlines	0.06	0.03	-

Source: Deutsche Bank.

### Global and strategic alliances

Currently, global alliances lack airline members from China. Although the major international carriers should be interested in gaining access to China's huge and immature air traffic market, China's airlines themselves do not view admission into global alliances as being particularly urgent. Most of them are still focusing primarily on the domestic market and have limited exposure to the international market.

However, there will be more co-operation on specific routes between international airlines and Chinese carriers. For instance, China Eastern has a codesharing alliance with American Airlines on routes between US points and Beijing and Shanghai. China Southern has feed agreements, block seat arrangements and some codesharing with Delta and United. Air China codeshares with Northwest on flights to four US cities.

Recently, Dragonair participated in the Asia Miles frequent flyer programme, implying that it may move toward the oneworld alliance. But this probably will not happen in the near future as Dragonair has openly stated its intention to remain independent (it derives equal amounts of its feeder traffic to China from member airlines of the oneworld and Star). If Dragonair does join the oneworld alliance, this would accelerate the pace of Star's search for a new partner in China.

## EC contemplates policy developments

At a "round table" meeting with industry experts in November (actually a rather large table as there were 150 attendees), the European Commission's DG7 (Transport) took the opportunity of outlining some of its ideas and priorities for air transport in the near future. Two topics were of particular interest - state aid and extra-EU relations.

### State aid

The Commission gave itself a hearty pat on the back for the work it has done in the twin areas of State Aid and enforcing its Market Economy Investor Principle rules. Of the seven airlines that had received state aid, six (Aer Lingus, Air France, Alitalia, Iberia, Sabena, and TAP) were now showing real improvements in levels of gearing, operating margins and productivity. Olympic was singled out as an airline that has yet failed to implement the plans prescribed by the EC and its financial and strategic advisors.

However, EC officials pointed out that their role in this area was not necessarily completed. For although "One time, last time" principles remain in place, the EC recognises that it will almost certainly be called upon to supervise further state aid injections into airlines when the EC is further expanded with the addition of new Eastern European countries. (Ironically, the test for state aid might be simpler for some of these carriers - LOT and, potentially, Malev and CSA will have Western airline investors, any government funds will have to be provided on the same terms as from their Western partners.)

Furthermore, the EC tends to judge the success or otherwise of its policies by their effect on employment, and it would therefore be reluctant to see struggling airlines fail altogether in the next downturn. Further injections of capital are probably ruled out, but the EC does see itself playing a role in making it easier for EU airlines to merge with or take over other EU airlines.

A fundamental problem here is how to maintain both the acquiring airline's and its take-

over target's route rights (assuming the airlines are from different EC countries) as bilaterals usually require that airlines are at least 50% owned and controlled by citizens of that state alone. This can partly explain why the EC is so determined to negotiate bilaterals on a pan-European basis.

### External relations

The EC has already lost the first skirmishes with most of its own member states which have signed their own independent "Open Skies" agreements with the US.

But the new Transport Commissioner and EC Vice-President, Ms Loyola de Palacio, emphasised the need, as she saw it, for European consolidation and hence the need for the EC having its own common policy on external relations.

The starting point for this process is December 6th at the second Chicago Convention, where the EC will propose to US negotiators a new common Transatlantic Common Aviation Area (TCAA). The transatlantic market would become a free market in which any EU airline could operate from anywhere in the EU to the US, (so BA could fly Paris-New York, and existing restrictions on US airlines at Heathrow would be lifted).

Once successfully concluded, this model could then be applied across the rest of the world. Eventually an EC airline could operate from any EC point to any point in the world, and therefore what are current virtual mergers, say between KLM and Alitalia or Swissair and Sabena, could become the real thing.

Laudable as this might seem, the new Commissioner will have a major battle on her hands to make this reality. EU member states will not give up their sovereign powers easily. Ownership restriction rules will also have to be waived. And the EC will have to convince the US DoT that this is a better deal than it has at present, or feels that it can negotiate in the future on a unilateral basis.

## Exponential growth in use of Internet

Airlines' use of the Internet to sell tickets is growing exponentially - both through their own web sites and through specialised travel and on-line auction web sites such as Travelocity.com and QXL. Not to be left behind, the CRS/GDS are now also entering the Internet market. The big losers are the travel agents.

For passengers with a complicated itinerary, who are not computer literate, or just do not know where they are going, the travel agent however remains important. But travel agents will increasingly have to sell their services as travel consultants, charging the passenger directly rather than indirectly through commissions on airline tickets.

Airlines have little choice but to sever their traditional relationship with agents as they focus on reducing distribution costs and increasing the percentage of direct sales (which used to be stuck at about 20% of the total). In the US, where Internet penetration has reached about 6% of total ticket sales, it is estimated that the cost of selling a ticket via the Internet is about a quarter that of selling it via a travel agency. As an indication of how rapidly Internet bookings could grow, today some 45% of US passengers use some form of e-ticketing when making travel arrangements.

Sales via the Internet give an airline greater control - more than half of the tickets sold on-line will be through the airline's own web site. Sales made through an airline's own web site also allows the airline to understand better the characteristics of its

passengers, to directly target them and to pamper their best customers. The Internet is also a cheaper and faster way of conveying news and offers to frequent fliers than direct mailings.

US airlines are also willing to pool their resources on the Internet. Delta, United, Northwest, and Continental are participating in the first multi-airline travel portal. This site, which is independently owned, is due to start up next year.

As airlines gain more confidence in using the Internet as a distribution tool, they will be even more aggressive in putting pressure on travel agents to reduce commission rates (they are also alienating agents by offering fares and availability on their own web sites which are available to the agents themselves).

European airlines are inevitably trailing the Americans, but they are becoming increasingly aware of the opportunities presented by the Internet. For instance, in mid-November British Midland began a four-week Internet auction offering 10,000 tickets to 30 European destinations. BMA is selling the tickets through the Internet auction company QXL. About 350 tickets are sold each day with the auction open from 1400 hours each day for 24 hours. BMA, rather than set up its own web site, has preferred to pay QXL a commission.

EasyJet has dispensed with travel agents altogether. The airline relies either on prospective passengers calling the airline directly, or using the Internet to book tickets through the airlines web site (now some 60 % of sales). EasyJet's web site is, well, easy - clearly laid-out, quick to navigate and relatively idiot-proof. When easyJet divulges more detailed financial information, it will be interesting to see how much the site costs to maintain.

The Internet also provides a way for airlines to sell so-called "distressed inventory", unwanted seats on unpopular routes,

### EXAMPLE OF GROWTH OF ELECTRONIC DISTRIBUTION: CONTINENTAL AIRLINES

Third quarter:	1997	1998	1999
E-ticket sales as percentage of total	19%	32%	42%
Web site sales	\$4m	\$18m	\$52m

Note: Total sales in 3rd quarter 1999 = \$2.1bn.

usually in the low season. One problem is that the high level of publicity that these auctions attract - recent headlines highlighted £1 London-Dublin return fares - and the consequent disgruntlement of full fare passengers.

### GDS disposals

In Europe airlines have enjoyed windfall profits from the sale of stakes in their GDS. British Airways gained a net £42m (\$70m from the sale of its stake in Galileo and the IPO of Amadeus will bring one-off financial gains for Lufthansa and Air France.

When explaining these sales airline tend to emphasises these points:

- GDSs are non-core activities;
- Now that all GDSs carry the same unbiased information they offered no competitive advantage to the airline owner; and
- Selling off these systems raises cash for fleet renewal and other forms of capital expenditure.

However, the fundamental reason may be that airlines see a conflict between developing their own web sites whereas the future of GDS appears to lie in producing different web sites for the distribution of airline tickets.

The problem for the GDSs is that their prime source of revenue is bookings made through travel agents. Each of the three major GDS carry, by law, identical data regarding flight schedules and availability, so the main differentiation factors that will sway a travel agent to use a particular GDS are acquisition price and fees thereafter, ease of use, and customer satisfaction regarding technical innovations etc.

Until recently, the three GDSs have chased market share on this basis, the key to the success being, as James Bartlett the CEO of Galileo put it, "distribution, distribution, distribution". Thus Galileo's main thrust has been to buy out control of the national distribution companies, and to focus expansion into new markets for example in Eastern Europe and the Africa.

Galileo has 36,000 travel agency users worldwide, and the third quarter 1999 results showed a 6% increase in net

income to \$54.2m. Morgan Stanley suggests that income growth might average 15% p.a. in the future, which is pretty good by aviation standards, but nothing compared to the phenomenal growth expected for Internet distributors like Priceline.com. (actually there has to be phenomenal growth to justify the huge stockmarket valuations of these e-companies)

Perhaps this partly explains why Galileo has gone from stating that it has "no plans to enter" the online market to announcing two new web sites. The first of these sites allows the airlines to sell tickets commission free but in return must support the site (presumably financially) and offer their best pricing and web products. This site obviously allows the airlines to sell tickets through the Galileo and cut out the middleman/travel agency and the commissions.

This is a brave step for Galileo as it potentially undermines its clients' revenues. Thus in a sop to travel agents, Galileo has announced plans for a "super travel agency site". The aim of this site being to allow travel agencies to gain access to the discounted fares that are currently only available through the airline and auction type web-sites.

The difficult decision for Galileo and Amadeus is to whether to follow Sabre's lead and invest heavily in the Internet at the potential risk of upsetting the travel agents. Sticking with existing formula allows access to a growing market for airline passenger bookings of roughly 5% p.a., but a market whose fundamentals are under threat by the increasing use of the Internet by individual passengers and businesses booking directly online either on airline web sites or through sites such as Travelocity.com or Priceline.com.

### Online travel agencies

There are two models of online travel agencies, or Internet agencies. The first is basically an electronic version of the traditional travel agent, the largest of which is Travelocity.com. Indeed, it is now the 19th largest travel agency in the US. The web



site carries booking information on over 42,000 hotels and 50 car rental companies.

Travelocity.com is owned by Sabre which in turn is 82% owned by AMR Corp.. It has arrangements with various airlines in addition to American and generates commission revenue of between 4-5% of the value of travel purchased at the website.

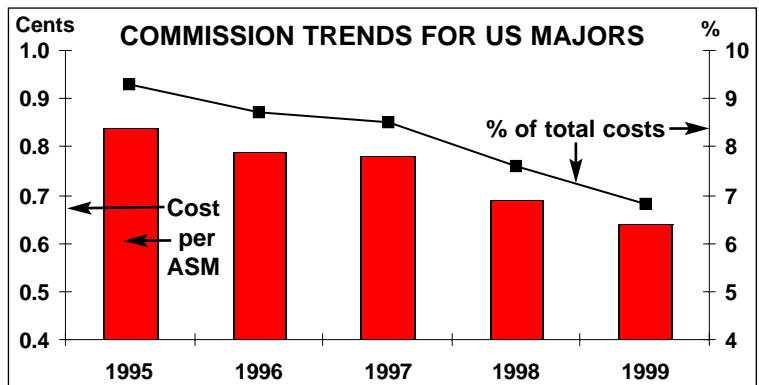
Travelocity.com announced in October that it was merging with Preview Travel, which has links with service provider AOL. The combined company has projected sales revenues of \$1bn for 1999 and with a membership base of 17m people, a 50% size advantage over the next largest Internet agency. The five-year growth rate in gross travel sales is estimated at over 300%.

The second model is represented by Priceline.com, which is a quoted company on NASDAQ, and has Delta as a shareholder. It currently enjoys a remarkable stockmarket capitalisation of over \$8bn.

Priceline.com purchases tickets in bulk from carriers such as Delta, Northwest, America West, TWA and Midway. These are then sold at its website. Customers are asked to make a bid for tickets, and if Priceline.com accepts their bid, the customer is contractually bound by his/her offer. Reminiscent of "bucket shops" in Europe, Priceline.com is a good place for airlines to dump excess capacity and a good place for passengers to find cheap tickets.

Priceline.com may offer cheaper fares than Travelocity.com but it offers the traveller less convenience. A Priceline.com user has no control over departure times and connectivity, thus routings can be highly circuitous.

Priceline.com's third quarter results for 1999 showed revenues up from \$9.2m to \$152.2m and net losses reduced from \$102.2m to \$19.9m. During this period Priceline.com sold a total of 624,000 airline tickets and 180,000 room nights. Although tickets and hotel beds are not the only things that can be purchased on the website, Priceline.com also sells mortgages and cars. The stock market consensus forecast expects Priceline.com to deliver



75% earnings growth in the next few years.

The Internet as a distribution source, by airlines, on-line agencies and by GDS has and will continue to marginalise the traditional travel agencies. The future of travel agents depends on whether they can demonstrate they are adding value in the supply chain between the airline and the passenger.

Worse still for travel agencies would be if tour operators also develop direct on-line sales, offering customers the opportunity of buying the various elements of a holiday - flight, hotel, car hire, etc. - via the Internet. At present the travel agencies appear to be protected from this development because of the vertical integration of the business, with tour operators owning travel agencies. But at some point, the tour operators may welcome to view the travel agencies as dispensable (just as airlines realised that their GDSs were no longer essential).

### UPS: SUPER-CARRIER OF THE INTERNET

In the October issue of *Aviation Strategy* we commented, a little sceptically, on Federal Express's image as the "official airline of the Internet". However, the part-flotation of UPS stock in November has provided an even more dramatic example of how investors expect integrated cargo airlines to benefit from the growth of e-commerce.

The stockmarket is valuing UPS as around \$84bn, representing a price/earnings ratio of about 50. It is now theoretically worth six times more than FedEx.

Although such a value cannot be maintained (can it?), this indicates that UPS has huge resources available to acquire companies in the European and Asian markets, restructuring the fast cargo industry outside the US on its own.

## Wet-lease airlines: from occasional business to profitable niche

**W**et-leasing of aircraft - complete with crews, maintenance and insurance - to other operators is not a new development. It has been around for almost as many years as airlines have been flying, largely as a means of overcoming temporary shortages of aircraft in order to maintain scheduled or charter passenger services.

What is different in today's environment is the increasing number of airlines, which focus either entirely - or almost entirely - on providing wet-lease services. All but one of these have come into existence since 1990.

So, what has changed to turn this occasional business into a full-time and profitable enterprise, with new entrants on both sides of the Atlantic? The answer lies in the relentless and increasing drive by airlines to cut costs, and to balance the conflicting objectives of scheduled operations to maximise yields against maintaining capacity.

In an increasingly competitive business, airlines can no longer afford to add further high-cost aircraft and infrastructure when the expected returns are uncertain, or at best minimal. This particularly applies to the development of new routes, where wet-leasing an aircraft significantly

minimises the risk of fixed-cost investment.

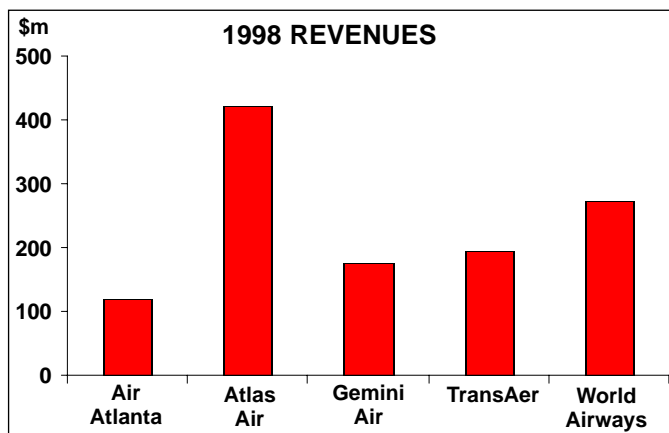
### Air Atlanta Icelandic

"This is where we are able to come in and provide a good reliable passenger service, at much lower cost," says Magnus Thorstenn, chief executive of Air Atlanta Icelandic, "we are problem solvers and have the flexibility to respond at short notice." Such notice can be from as little as days, as in the case of its recent contract with Iberia, but three months is a more normal target, in order to increase the chances of finding a suitable aircraft to meet the customer airline's requirements. Along with other airlines offering almost exclusively wet-leasing services, Air Atlanta Icelandic has a big advantage in that it does not compete directly or indirectly with its customers.

Around 96% of its contracts are on an ACMI (aircraft, crews, maintenance and insurance) basis, where the customer airline bears all other operating expenses, including fuel, landing fees, and passenger and aircraft handling. Aircraft can be painted in the customer's livery, crew can fly in customer uniforms, and the level of cabin service can also be tailored to the customer's requirements. Air Atlanta Icelandic provides station operations staff and engineers with each aircraft, maintains a spares depot and workshops at Manston in the UK, and is looking towards setting up a similar facility elsewhere in the world.

It presently has aircraft in service with Iberia, Air Afrique, Air-India and Saudia. Two cargo 737s, one flying with DHL, the other Lufthansa, have been sold, as the airline moves to an all-passenger operation.

On the passenger side, Air Atlanta Icelandic is believed to be the only airline deriving its income solely from wet-lease



operations, although there is no shortage of competition from companies operating a mix of wet-lease and own scheduled or charter services. In 1998, Air Atlanta Icelandic had revenues of \$120m and made a profit, although Thorstenn will not reveal just how much. But with only two years of losses (during the recession of the early 1990s) in its 13-year history, the concept clearly works.

### TransAer

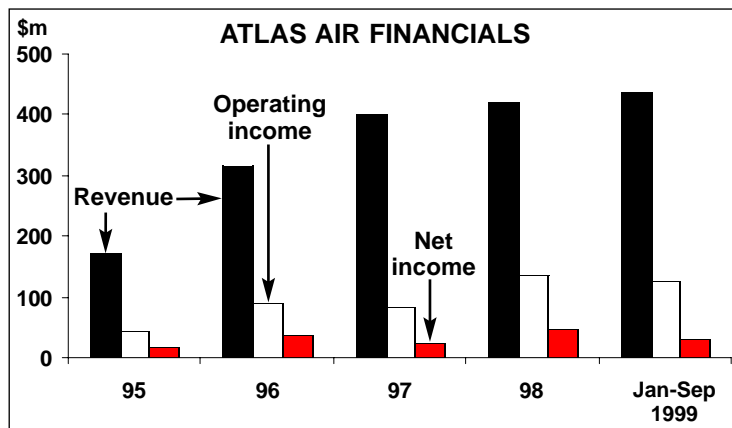
Most prominent among the competition is Irish company TransAer, which has carved out for itself a niche market with a fleet based on A320s. Its most recent contract, for a period of 18 months, was signed with Cubana, and involves flying two A320s on schedules from Havana to points in the Americas. The \$30m deal brought the value of contracts won in 1999 to over \$130 million.

Other major clients which have availed themselves of the TransAer ACMI service include Air Canada, Air France, Aer Lingus, Britannia Airways, Malaysia Airlines, Sabena and Virgin Atlantic. Revenues in 1998 came to \$195 million, with around 60% derived from ACMI work, the rest from its own charters. Total flying hours reached 44,000.

### Atlas Air

There are other drivers in the freight sector of air transport. Few of the world's leading international airlines now operate dedicated freighters, having abandoned these as cargo capacity in the bellyhold of widebody passenger aircraft increased sufficiently to meet demand.

However, as airlines are replacing high-capacity aircraft with smaller types to meet changing passenger flows, and with freight traffic rising and expected to outstrip passenger growth in the years ahead, airlines will need to re-deploy pure freighters. Wet-lease airlines can offer a more cost-effective alternative to taking on the required capacity through the heavy financial commitment of purchasing or leasing new air-



craft and establishing associated infrastructure.

US company Atlas Air, founded in April 1992 by Michael Chowdry, has taken full advantage of this trend and of the availability of early model 747-200s, which are being replaced in mainline fleets by new technology, often twin-engined aircraft.

Its 18-strong freighter fleet operates under ACMI contracts for British Airways, China Airlines, Emirates, Alitalia, Fast Air, KLM, Korean Air, Lufthansa, SAS and Thai International, serving more than 100 destinations in nearly 50 countries. In terms of cargo carried, Atlas Air is now the world's third-largest cargo carrier, behind only Federal Express and United Parcel Service.

This is an impressive performance in a new niche market, which has won Chowdry the 1999 National Ernst & Young Service Entrepreneur of the year award.

The Atlas Air strategy is simple. Its focus is on maintaining a low-cost operating structure that enables it to offer its services at rates, which are significantly lower than the airline customers' own internal costs.

Central to this strategy is its emphasis on long-term (typically three years or more) contractual arrangements, which provide guaranteed revenue levels, even if load factors fluctuate widely. For this reason, it generally rejects short-term or 'fill-in' business. Revenues and costs are in US dollars, also enabling the company to avoid currency fluctuations when conducting business abroad.

Steadily-rising revenues reached \$422m in fiscal year 1998. This figure has already been exceeded in the first nine months of 1999, when the airline reported revenues of \$438m. This represents a 60% increase on the revenues achieved in the same period in 1998, in spite of the negative impact on its operations of hurricanes and the earthquake in Taiwan.

Revenue per block hour increased to a record \$5,855. Net profit in fiscal 1998 came to \$46m; \$29m was posted to 30 September 1999, a marginal improvement over the previous nine-months. Richard H Shuyler, executive VP, says that, with record cargo volumes and full utilisation of its fleet, the company should achieve a "positive finish for 1999."

### Gemini Air Cargo

Although Atlas Air is the undoubted market leader, operating 12% of the world's freighter fleet, competition is being mounted by another US carrier, Washington-based Gemini Air Cargo, which flies 11 DC-10-30F aircraft on ACMI contracts for some of the world's leading airlines. The fleet will be increased with the addition of two MD-11s, to be leased from Gecas in May 2000 and converted to freighter configuration. The company did not start operations until December 1995, but has already made an impact in the market.

### World Airways

Established longest in this business is World Airways, whose history goes back to 1948, but with its parent WorldCorp filing for Chapter 11 bankruptcy protection last February, its long-term future remains unclear. While it has ventured from time to

time into scheduled services, it has largely remained faithful to its three core businesses, which include charter, ACMI, and government contracts.

Passenger and cargo ACMI accounted for a large part of its 1998 revenues of \$271m, but higher fuel costs and lower passenger ACMI, especially for customers in Asia, are expected to further depress revenues and keep losses around the \$10m mark. World operates a fleet of five MD-11 passenger aircraft and three MD-11F freighters. Its DC-10-30s are being sold. Present customers are Aer Lingus, Malaysia Airlines and STAF.

### Prospects

The growth of the fleet is entirely dependent on contracts won. In this business, Air Atlanta's Thorstenn emphasises, there is no place for speculation. Aircraft are rarely, if ever, brought in on vague possibilities, and then usually in ones and twos on the second-hand market as required.

This makes Atlas Air's acquisition of 12 747-400Fs a quite remarkable departure from the norm, but the company says that customers have been lined up for all of these. Yet, adding aircraft remains a fine balancing act, especially in the passenger market, in that follow-on work has to be found to maintain revenue flow, although as contracts get longer - three years is not unusual - the risk factors are coming down.

Widebody aircraft, especially first-generation types such as the Lockheed TriStar, the DC-10 and early Boeing 747-100/200Bs, dominate the fleets. This, says Thorstenn, is a reflection of customer demand for high-capacity aircraft, availability, and cost limitations, although if the customer is prepared to pay the higher price, newer aircraft can be obtained.

Given the relative uncertainty of contract work, it is remarkable that fleet utilisation is up to the levels achieved in normal year-round airline operations. Two of Air Atlanta's fleet on long-term contracts are logging the equivalent of 4,000 hours/year, with a fleet average of 2,000-2,500 hours.

WET-LEASE FLEETS						
	A300	A320	747	DC10	L1011	MD11
Air Atlanta Icelandic			11		4	
Atlas Air			30 (5)			
Gemini Air				11		(2)
TransAer	6	11				
World Airways				3		8
<b>TOTAL</b>	<b>6</b>	<b>11</b>	<b>41 (5)</b>	<b>14</b>	<b>4</b>	<b>8 (2)</b>

Note: Numbers in brackets are aircraft on order.

### Continental: high growth at low risk?

Continental is probably the biggest 1990s success story among the major US carriers. After emerging from its second Chapter 11 visit in April 1993, the company staged an impressive financial turnaround four years ago. Since then it has consistently achieved high profit margins, despite rapid international growth and a process of bringing wages to industry standards.

Much of this has been the result of a turnaround strategy put in place by a new leadership team, headed by Gordon Bethune, the current chairman and CEO, five years ago. While Bethune was credited for engineering the rescue and was named as one of the 50 best CEOs in America in a recent survey, his right-hand man Greg Brenneman, president and COO, is now one of the most sought-after candidates for CEO position at the largest US corporations.

The initial phase of the strategy involved scrapping Lite (the low-cost venture launched in 1993), phasing out the 21-strong A300 fleet, eliminating 4,000 jobs, outsourcing maintenance at two locations, strengthening hub operations, bringing back first class, improving on-time performance, and renegotiating debt, aircraft deliveries and leases. All of that led to an immediate return to profitability in the second quarter of 1995.

In 1997 Continental identified another \$100m potential non-labour cost savings for 1998 (through eliminating waste, doing things more efficiently, using new technology, etc). As that target was exceeded, the goal was raised, and the savings will now add up to \$210m by the end of 1999.

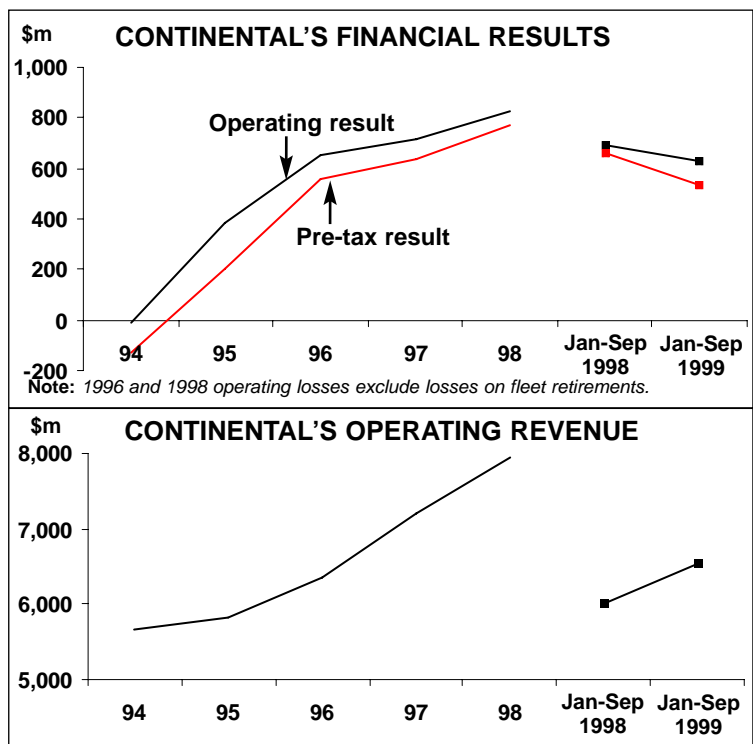
This, together with the benefits derived from fleet renewal, higher aircraft utilisation, productivity improvements and lower distribution costs, has enabled unit costs to be kept in check despite considerable wage pressure over the past couple of years. Costs per ASM were 8.93 cents in 1998.

After surging in 1996 in the wake of Lite's disappearance, Continental's unit revenues

have remained stable, at around 10 cents per ASM, in the past three years. The adverse effects of rapid expansion have been compensated for by a rise in the business traveller content of total traffic, reflecting product enhancements and high operational reliability.

The repeat awards won by Continental testify to the consistency of its product quality. In their independent annual study, J.D.Power/Frequent Flyer magazine have again named it the best major airline in customer satisfaction on long-distance flights - a distinction Continental has won in three of the past four years.

But the airline is proudest of its inclusion, at the end of 1998, as one of the "100 Best Companies to Work for in America" in *Fortune* magazine's annual survey. The 10% operating profit margin target set by the 1995 turnaround plan was achieved in 1996 (when substantial fleet charges are exclud-



ed) and has been maintained (10.4% in 1998 and 9.6% in January-September 1999).

These were not the highest margins around, but Continental's average return on equity (37% in 1998) has exceeded the industry average. These were significant achievements in a period of major expansion.

After a 10% capacity decline between 1992 and 1996, Continental's ASMs surged by 9.9% in 1997, 10.6% in 1998 and 9.4% in the first nine months of this year.

The financial community has been impressed by Continental's ability to grow without adverse impact on the bottom line. However, the general concept of capacity addition (by anyone other than Southwest) is one that evokes fears in the minds of US airline investors, bringing back memories of damaging price wars and desperate market share battles.

Concerns have mounted as the industry's aggregate ASM growth has accelerated this year. And in October, in a meeting with Wall Street analysts, AMR's influential CEO Don Carty blasted his rivals for irresponsible capacity addition. Since then he has also suggested that American's own planned 3% growth may be excessive.

As Continental is the only one of the hub-and-spoke carriers growing at a 10% annual rate, its share price this year has been hurt by such concerns. Its price/earnings ratio (7.5 on 1999 earnings) continues to lag the average for the major carriers (9.4).

Consequently, at the end of October Greg Brenneman and CFO Larry Kellner gave a major presentation to shareholders

and analysts in New York. The top executives explained why Continental is able to grow at such a rate and remain profitable. They also assured investors that growth would continue only if the 10% operating margin can be maintained.

The company also disclosed that it is pursuing new "high return, low-risk" opportunities that could add \$875m to annual pre-tax profits by 2004. The benefits would come from further efforts in five areas: alliances, distribution costs, business mix, low-risk growth and fleet rationalisation.

### Focus on "underdeveloped" hubs

All of Continental's growth has focused on strengthening its main hubs at Houston, Newark and Cleveland. The carrier says that it has been able to grow so dramatically and profitably because all of those hubs have been "underdeveloped", with spare capacity and a large potential local traffic base.

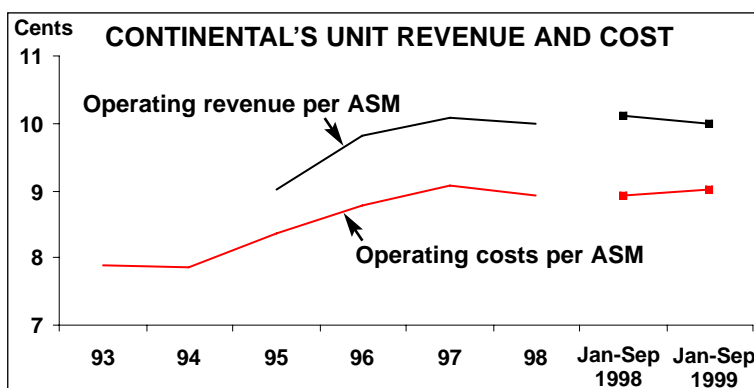
Continental is the only carrier that operates a hub for New York City, the world's largest business travel market, while its home base Houston is the fourth largest city in the US. Cleveland is very underdeveloped relative to the size of the city - it has only one-third of the departures of Cincinnati (a secondary hub for Continental) even though the local market is twice as large.

The desire to grow is understandable in the light of the long pre-1997 stagnation period. Over the past 10 years, Continental's ASMs have increased by just 1.1% annually, compared to the industry average of 3.4%.

The airline is now making up for the hub-building opportunities missed in the past and has been investing heavily to improve facilities.

It seems very likely that American would follow exactly the same strategy, were it fortunate enough to have such good growth opportunities at its hubs.

Having large local traffic bases at hubs is a blessing for Continental as such traffic tends to mean higher yields. About 64% of its total traffic originates in one of its hubs,



compared to about 48% for the industry. There is virtually no linear flying - all future growth will be out of the four hubs.

Another positive is a relatively diversified international network by US carrier standards. Domestic operations account for 64% of revenues, Europe 16%, Latin America 12% and Pacific 8%. This reduces the risk of being too badly affected by problems in any particular region.

But JetBlue's plans to start Southwest-style low-fare operations from New York's JFK in early 2000 are bad news for Continental, as the new carrier has ambitious growth plans and, thanks to strong initial funding, much staying power. It will sell itself as New York City's only homegrown airline, offering high-quality service from a more convenient airport, and therefore pull both leisure and business traffic away from the majors. A mid-October report from PaineWebber estimated the profit impact on Continental at a modest 20-30 cents per share in FY 2000, when the venture is still in its start-up phase.

Continental's latest five-year projection calls for growth in daily jet departures from the current 1,373 to 1,850 in 2004, assuming that profit margins will allow it. The general theme is more frequencies out of all hubs and the use of slightly larger aircraft.

Latin American expansion looks set to continue, as allowed by ASAs, with new service to Brazil and Argentina, particularly now that unit revenues on US-Latin America routes have improved progressively this year.

Thanks to previously "outstanding" profit margins, Continental has grown dramatically on the transatlantic in recent years. It has identified further profitable expansion opportunities to 30 European cities (currently 17) over the next five years. Many of them are secondary cities that could be linked with Newark utilising the 767-200ER.

But those plans will have to wait as excess industry capacity caused Continental's transatlantic unit revenues to plummet by 15.2% in the September quarter. Although the routes are still profitable, there is a need to rationalise.

Much of Continental's ASM growth this

year came from the new Tokyo routes, so next year's growth was never expected to be that spectacular.

But the carrier and its Continental Micronesia subsidiary have now decided to retire six DC-10-30s earlier than planned (between now and next summer), so reducing planned ASM growth in 2000 from 6% to around 4.6%. The DC-10s will be replaced 757s, 737-800s and 777s.

### Flexible fleet plan

The five-year fleet plan has much flexibility built in to allow Continental to regularly review the growth rate, based on profit margins. It has the option of keeping the fleet at the present level of 365 aircraft or even reducing it to 332 by accepting only committed deliveries and returning older aircraft when leases expire. Or it could grow dramatically, to 502 aircraft by 2004, by exercising all the options.

The carrier is in the process of rationalising and modernising its fleet, which last year still included nine different aircraft types covering virtually the full range of jets offered by Boeing. The number of types has now been reduced to six and is planned to go down to just four by 2003.

Over the past two years Continental has brought in 143 new Boeing aircraft (14 777s, 21 757s and 108 737s) and retired a similar number of older aircraft. By year-end its average fleet age will have fallen to 7.6 years - the lowest among the major carriers.

The 777 was introduced a year ago and is utilised on the new Tokyo routes and a growing number of transatlantic sectors pre-

#### CONTINENTAL'S FLEXIBLE FLEET PLAN

	No. of jet aircraft types	Minimum (committed fleet, less lease expirations)	Maximum (committed fleet and all options exercised)
1998	9	363	363
1999	6	365	365
2000	5	376	379
2001	5	382	405
2002	5	370	437
2003	4	343	467
2004	4	332	502

viously served with the DC-10. Deliveries of the 767-200ER and 767-400ER will begin in 2000 and will enable the DC-10 retirement process to be completed over the next few years.

The commonality benefits associated with moving from six to four aircraft types are estimated to boost pre-tax profits by \$125m annually, and on top of that there will be major cost savings through increased fuel efficiency and productivity.

Financing costs have been reduced by securing an average interest rate of less than 7% on the \$4.6bn worth of deals completed since 1997. All of that is long-term debt or leases, so the benefits will be felt going forward as far as 10-15 years.

The five-year plan does not cover regional subsidiary Continental Express, which is expanding rapidly and moving towards an all-jet fleet over the next few years. It launched the 50-seat ERJ-145 in 1997 and the 37-seat ERJ-135 in September, becoming the first North American operator for both types.

### Alliance benefits

Continental's leadership considers the current worldwide alliance network to be essentially complete. The latest five-year projection envisages the addition of just two more partners, to bring the total to 20 by 2004. However, there is a long way to go to realise all the benefits.

The Northwest alliance has so far exceeded the financial projections made a year ago. It is expected to contribute \$70m to Continental's bottom line this year. The two have now linked most of their domestic and international routes and exchange about 2,000 passengers per day. Cooperation has proved particularly useful on the US-Tokyo routes - a market that Continental entered a year ago with service from Newark and Houston. When fully implemented, the pre-tax benefits derived from the alliance are expected to amount to \$200-225m annually.

But Continental is concerned about the disparity in service standards. It has an award-winning product, whereas Northwest's still leaves much to be desired.

Developing a consistent product will be one of the biggest challenges faced by the alliance.

Continental has also implemented code-sharing with Northwest's partners Alaska and Horizon, focusing on the West coast and Pacific Northwest routes. And it recently expanded its extensive domestic codesharing deal with America West to cover eight markets in Canada and Europe.

Like its competitors, Continental has been active in forging alliances in Latin America. Its partners there now include VASP, Copa, ACES, Air Aruba, Aserca (Venezuela) and AVANT (Chile). The deals were prompted either by an investment opportunity (Copa) or a desire to secure some local or regional feed to new services to the region.

Although the 1993 alliance with Alitalia has been expanded and is described as "very successful", the impression gained is that there is nothing very substantial on the horizon. The late October New York gathering was told, in response to a question, that "we may be the only airline in the US that really does not need a European partner, because we can fly to so many cities out of New York".

This, of course, reflects Continental's desire to operate nonstop services, which passengers prefer, to as many cities as possible. It will still need the feed from elsewhere in Europe, as well as the Middle East and Africa, provided by partners.

### Improving business mix

The business traveller content of Continental's traffic has risen steadily, from 37% of revenues in 1995 to about 45% at present. The carrier has set the target at 50% by 2004 - a level enjoyed by American, Delta and United. Reaching that would generate an additional \$175m in annual pre-tax profits.

The way to get there is apparently through corporate contracts, and the alliance with Northwest is expected to help. By jointly bidding on such contracts, the two can offer a much larger network centred on more hubs.



They have already signed up three large corporations and have 20 more in the pipeline. Continental executives stress that the Northwest alliance is crucial in enabling it to compete with the three biggest carriers .

### Reducing distribution costs

Efforts to cut costs by eliminating inefficient distribution methods have been equally successful. Since 1994 Continental's sales and distribution expenses have declined from 17% to 14.3% of passenger revenues. E-tickets now account for 42% of total sales, compared to 1% in 1995.

The recent travel agency commission cuts are estimated to save Continental \$90m per year, of which \$15m will be invested back into the distribution system.

The distribution cost percentage is expected to fall to 10% by 2004, generating \$200m annual pre-tax benefits. This figure assumes some penalties, including some form of compensation to travel agents and lower ticket prices on the Internet.

Like its competitors, Continental is now aggressively pursuing Internet sales - whether on its own web site, industry travel sites or through companies like Priceline. It has just joined forces with United, Delta and Northwest to launch a new independent travel site in the first half of 2000.

The purpose of web sites is to get more direct bookings, thus eliminating CRS fees. In the third quarter Continental's web site generated \$52m in sales. The carrier believes that 20-25% of the market is willing to buy on its the web site if it can offer the lowest fares there. Once the site is ready to handle that, maybe by mid-2000, growth could really take off. By 2003 Continental expects its Internet sales to have reached \$2bn annually or 20-25% of total sales.

### Labour cost challenges

Continental continues to enjoy excellent labour relations, in part because of the ongoing process of restoring wages to industry standards (the average of the top ten carriers) by July 2000. Two years ago it essentially gave in on economic issues in difficult

contract talks with the pilots. It also pays generous amounts in profit sharing and takes care to treat unionised and non-unionised employees equally.

As a result, it has avoided further unionisation. Its fleet service workers recently overwhelmingly rejected IAM's efforts to organise them. And current contract talks with the flight attendants are apparently going well (albeit under federal mediation) and should be concluded by the December 24 deadline or early in the new year. Contracts with other worker groups will not become amendable until 2002 or 2003.

But the price paid for the tranquillity are substantial hikes in labour costs. Wages and salaries surged by 22.3% in 1998 and 17.7% in the first nine months of this year. How will the 10% operating margin be maintained in the face of such pressures?

First, Continental believes that the existing contracts will allow it to maintain a labour cost advantage through productivity.

Second, there are continued efforts to eliminate non-value-added costs. Those factors succeeded in limiting the September quarter's hike in unit costs (excluding fuel) to just 0.1%, and the current quarter's increase will be less than 1%. The percentage for the year will be a little higher, but only because of extra training costs associated with the fleet transition in the first half of the year.

Unlike its competitors, Continental knows exactly where its labour costs are going to be. There will be no unpleasant surprises. The 10% operating margin is believed to be a reasonable goal, representing an average of perhaps a 8-12% range.

Like Delta, Continental has been shedding some of its non-strategic assets. The sale of Amadeus, which closed in late October, will result in a \$296m pre-tax gain in the December quarter. The company has an ample \$1.7bn in cash reserves, and now intends to return some of it to shareholders. It has just announced an increase in its share repurchase scheme, which began in 1998, from \$800m to \$1.26bn. In an unusually generous move, the board authorised the company to use half its 2000 net earnings, plus all proceeds from future non-strategic asset sales, for additional stock buy-backs.

By Heini Nuutinen

## E&M: how to choose your supplier

**A**viation Strategy is in the process of reviewing three key Engineering and Maintenance (E&M) Management issues: organisation and outsourcing; supplier selection and negotiation; and establishing the contract and performance measurement. Outsourcing was covered in the October issue, and in this article we are focusing on supplier selection.

Today, the market is seeing more and more long-term contracts, with airlines recognising the benefits of stability of supply, ensured availability, predictability of cash flows and a reduction of purchasing costs. Since such contracts are necessarily very complex, management needs to ensure that:

- A comprehensive selection process is carried out that identifies the right partner for the airline's needs; and
- A fair, practical and rigorous contract is established that sets out the right foundations for working together in a constructive and "win-win" relationship.
- The selection process and subsequent development of a long-term contract are key to protecting E&M cost-effectiveness and performance. It should consist of the following four elements.

### Statement of requirements

The statement of requirements is a vital document and it has many purposes. First, it provides the basis for the supplier's commercial offer. Hence, it must be explicit about the scope and detail of services required and the responsibilities of each party. This leads to the second purpose - creating a level playing field for the selection process and offer evaluation.

Cost comparisons are only realistic if the offers are made on a like-for-like basis. And there are a myriad number of ways that different base assumptions can lead to an apples and orange comparison. Examples include:

- For inventory support: the service level expected from consignment stocks, the inclusion/exclusion of loan items from flying hour rates, the items covered (expendables, repairables, rotables), the BER hurdle

- For airframe maintenance: the manhours per defect included in the fixed price, the inclusion/exclusion of AD/SB modifications, the maintenance schedule being priced, tasks included/excluded
- Pricing: length of contract, escalation rates
- Fleet, maintenance and scheduling policies: aircraft utilisation, average flight length, nightstop locations, frequency of rotation through main operating base

Creating a fair and detailed comparison of the economic cost of different tenders can be a nightmare.

A third important role of the statement of requirements is for the airline to communicate its strategic objectives. In effect, the airline is beginning to set out its expectations for the relationship, for service performance and for the contracting process. For example, the airline might:

- Believe strongly in performance incentives and penalties;
- Have specific passenger service policies that impact E&M requirements (for instance, giving passengers refunds for delays over a certain length);
- Set out certain non-negotiable items (for example, supplier must have, or must establish, line maintenance capability at airport X).

Finally, the statement should describe the selection process and in particular set out the milestones for receipt of offers, the likely decision dates, the appropriate contact point for questions and communications, the evaluation/selection team members and the primary steps.

### List of suppliers

This is the most straightforward step. Although plenty of competition exists, most serious players have a well-established sales force and therefore the main contenders will be known to the airline. A main question is the geographic scope of suppliers to be considered and this will depend on the services being contracted out. Wide-body airframe heavy maintenance can be and is sub-contracted to suppliers on the other side of the world (witness Air New Zealand's client list). However, component

support suppliers are likely to have a base at least in the same continent.

Other factors will also ensure a certain amount of pre-selection. Examples will include established expertise on type, hangar access/availability at the main hub, and market reputation. Another influential guideline is often the prior experience of the airline's Technical Director and Chief Engineer. The E&M world is a relatively small and close-knit, and past performance is often key to a supplier's future success.

### Supplier evaluation

First, the airline must establish and understand what its key decision criteria are likely to be. Then and only then can the selection team set about capturing, understanding and documenting all the information about suppliers that is relevant to the airline's own customised decision criteria.

Ultimately, this discipline will provide a framework and the rationales for making fair comparisons, sound trade-offs and a robust, well-understood final selection. The first step is defining and agreeing a list of selection criteria, which are summarised in the box above.

Usually, the selection process has three distinct phases. First there is an initial screening where the list of suppliers is thinned out to a more manageable short-list. The second phase is then to conduct a much more detailed examination of the offers. It is here that the evaluation of the commercial offers is completed to ensure a fair comparison and that there are no hidden costs. Also, the airline should now visit the supplier facilities to:

- Meet the managers and staff who will be the daily interface (not the sales force);
- Review the degree of systems and process sophistication;
- Get a feel for management capabilities and approach (can-do versus bureaucracy); and
- Understand the role, influence and ability of the Quality group.

Finally, the supplier's customers should be interviewed. And not just those contacts recommended by the salesman. Investigate recent contract wins and losses - find out why the supplier was not selected.

Having collated the information, the selection team and the airline's executive management need a process and mechanism for examining, understanding and evaluating the decision. Multiple techniques exist, but most revolve around

#### SELECTION CRITERIA

##### Capabilities and performance:

- Number of airline's aircraft type under contract
- Number of customers
- For turnkey contracts, technical performance of customers under contract (eg, technical dispatch reliability, average level of defects)
- Customer feedback
- Professionalism of supplier front-line staff
- Reputation for quality

##### Economics

##### Infrastructure:

- Number and location of line and heavy maintenance bases
- Location of main inventory store and its accessibility to the airline's network
- Amount of aircraft type inventory held
- Systems and technology employed

##### Corporate:

- Potential for corporate conflict
- Long-term commitment to the third-party business
- Size and resources
- Perceived style and culture of management
- Alignment of strategic objectives

scoring and ranking suppliers in a controlled and transparent manner.

This detailed examination may reveal the one ideal and outstanding supplier alternative - with no weaknesses. Again, experience shows that there is no one ideal solution. The airline should then enter a final selection stage.

### Final selection

It is always wise to keep at least two suppliers in the game at this stage, even if there is one outstanding candidate. A sense of competition is necessary and advisable because inevitably, negotiations are still required:

- To establish the best and final offers; and
- To include specific clauses or commitments that will resolve and address those issues that have been identified as weaknesses.

It is at this stage when more complex and difficult issues generally have to be addressed by the airline and supplier together. It is possibly the first experience for the senior management personnel of both parties to see and experience how the other works.

The final choice may by now be straightforward. If not, and there remain two strong candidates, then there will be extended debate. The science and discipline of a process ends and judgement comes into its own.

And once the choice is made - then comes the difficult part, the contract. How it is framed and negotiated will help determine the success of that relationship. This will be covered in the last of the three articles on E&M management.

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# Aviation Strategy

## Macro-trends

### EUROPEAN SCHEDULED TRAFFIC

	Intra-Europe			North Atlantic			Europe-Far East			Total long-haul			Total international		
	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %
1991	114.8	65.2	56.8	120.9	84.3	69.7	80.0	53.1	66.4	267.6	182.0	68.0	397.8	257.9	64.7
1992	129.6	73.5	56.7	134.5	95.0	70.6	89.4	61.6	68.9	296.8	207.1	69.8	445.8	293.4	65.8
1993	137.8	79.8	57.9	145.1	102.0	70.3	96.3	68.1	70.7	319.1	223.7	70.1	479.7	318.0	66.3
1994	144.7	87.7	60.6	150.3	108.8	72.4	102.8	76.1	74.0	334.0	243.6	72.9	503.7	346.7	68.8
1995	154.8	94.9	61.3	154.1	117.6	76.3	111.1	81.1	73.0	362.6	269.5	74.3	532.8	373.7	70.1
1996	165.1	100.8	61.1	163.9	126.4	77.1	121.1	88.8	73.3	391.9	292.8	74.7	583.5	410.9	70.4
1997	174.8	110.9	63.4	176.5	138.2	78.3	130.4	96.9	74.3	419.0	320.5	76.5	621.9	450.2	72.4
1998	188.3	120.3	63.9	194.2	149.7	77.1	135.4	100.6	74.3	453.6	344.2	75.9	673.2	484.8	72.0
Sep 99	17.4	11.8	67.9	19.7	15.7	79.6	11.1	9.1	82.1	42.2	33.5	79.9	62.6	47.4	75.7
Ann. chng	6.4%	2.2%	-2.8	11.8%	5.1%	-5.1	-2.3%	1.4%	3.0%	7.4%	4.1%	-2.5	7.3%	4.0%	-2.4
Jan-Sep 99	150.5	95.8	63.6	164.4	127.3	77.4	100.6	77.5	77.1	369.1	260.4	76.0	545.6	393.8	72.2
Ann. chng	6.9%	4.0%	-1.4	11.0%	13.2%	-1.5	-1.0%	2.5%	2.7	9.0%	7.7%	-0.9	8.4%	7.1%	-0.9

Source: AEA.

### US MAJORS' SCHEDULED TRAFFIC

	Domestic			North Atlantic			Pacific			Latin America			Total international		
	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %
1991	835.1	512.7	61.4	108.0	75.2	69.6	117.0	78.5	67.1	44.3	27.4	61.8	269.2	181.0	67.2
1992	857.8	536.9	62.6	134.4	92.4	68.7	123.1	85.0	69.0	48.0	27.4	57.0	305.4	204.7	67.0
1993	867.7	538.5	62.1	140.3	97.0	69.2	112.5	79.7	70.8	55.8	32.5	58.2	308.7	209.2	67.8
1994	886.9	575.6	64.9	136.1	99.5	73.0	107.3	78.2	72.9	56.8	35.2	62.0	300.3	212.9	70.9
1995	900.4	591.4	65.7	130.4	98.5	75.6	114.3	83.7	73.2	62.1	39.1	63.0	306.7	221.3	72.1
1996	925.7	634.4	68.5	132.6	101.9	76.8	118.0	89.2	75.6	66.1	42.3	64.0	316.7	233.3	73.7
1997	953.3	663.7	69.6	138.1	108.9	78.9	122.0	91.2	74.7	71.3	46.4	65.1	331.2	246.5	74.4
1998	961.0	679.1	70.7	150.3	118.5	78.8	112.1	81.6	72.8	84.0	52.3	62.3	346.4	252.4	72.9
Sep 99	83.6	55.1	65.9										30.8	23.8	77.3
Ann. chng	10.4%	5.8%	-2.9										14.8%	17.4%	1.4
Jan-Sep 99	751.8	532.7	70.9										269.7	203.2	75.3
Ann. chng	5.1%	4.1%	-0.6										3.7%	5.7%	1.3

Note: US Majors = American, Alaska, Am. West, Continental, Delta, NWA, Southwest, TWA, United, USAir. Source: Airlines, ESG.

### ICAO WORLD TRAFFIC AND ESG FORECAST

	Domestic			International			Total			Domestic growth rate		International growth rate		Total growth rate	
	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK %	RPK %	ASK %	RPK %	ASK %	RPK %
1992	1,305	837	64.2	1,711	1,151	67.3	3,016	1,987	65.9	3.0	4.6	15.1	15.3	9.5	10.5
1993	1,349	855	63.3	1,785	1,205	67.5	3,135	2,060	65.7	3.4	2.0	4.4	4.8	3.9	3.6
1994	1,410	922	65.3	1,909	1,320	69.1	3,318	2,240	67.5	4.6	7.9	6.9	9.4	5.9	8.8
1995	1,468	970	66.1	2,070	1,444	69.8	3,537	2,414	68.3	4.1	5.4	8.5	9.4	6.6	7.8
1996	1,540	1,043	67.7	2,211	1,559	70.5	3,751	2,602	70.4	4.9	7.4	8.8	10.0	7.0	8.8
1997	1,584	1,089	68.8	2,346	1,672	71.3	3,930	2,763	70.3	2.9	4.5	6.1	7.2	4.8	6.1
1998	1,638	1,147	70.0	2,428	1,709	70.4	4,067	2,856	70.3	3.4	5.2	3.5	2.2	3.4	3.4
*1999	1,733	1,196	69.0	2,557	1,814	71.0	4,290	3,009	70.2	5.9	4.3	5.3	6.1	5.5	5.4
*2000	1,810	1,244	68.7	2,715	1,922	70.8	4,525	3,165	70.0	4.4	4.0	6.2	5.9	5.5	5.2
*2001	1,868	1,273	68.1	2,837	1,992	70.2	4,706	3,265	69.4	3.3	2.3	4.5	3.7	4.0	3.2
*2002	1,923	1,291	67.1	2,961	2,049	69.2	4,883	3,339	68.4	2.9	1.4	4.3	2.8	3.8	2.3
*2003	1,973	1,353	68.6	3,093	2,187	70.7	5,066	3,540	69.9	2.6	4.8	4.5	6.7	3.7	6.0

Note: \* = Forecast; ICAO traffic includes charters. Source: Airline Monitor, July 1999.

### DEMAND TRENDS (1990=100)

	Real GDP					Real exports					Real imports				
	US	UK	Germany	France	Japan	US	UK	Germany	France	Japan	US	UK	Germany	France	Japan
1991	99	98	101	101	104	106	99	112	104	105	99	95	113	103	97
1992	102	98	102	102	105	113	103	112	109	110	107	101	115	104	96
1993	105	100	100	101	105	117	107	106	109	112	117	104	108	101	96
1994	109	103	103	104	106	126	117	115	115	117	131	110	117	107	104
1995	111	106	105	106	107	137	126	122	123	123	141	115	124	113	119
1996	114	108	107	107	111	152	135	128	128	126	155	124	127	116	132
1997	118	112	110	109	112	172	146	142	142	138	177	135	136	123	132
1998	122	115	113	112	109	173	150	152	150	135	196	144	147	133	121
*1999	124	116	115	115	109	179	154	159	156	140	211	150	156	141	124

Note: \* = Forecast; Real = inflation adjusted. Source: OECD Economic Outlook, December 1998.

# Aviation Strategy

## Macro-trends

### COST INDICES (1990=100)

	Europe						US					
	Unit revenue	Unit op. cost	Unit lab. cost	Efficiency	Average lab. cost	Unit fuel cost	Unit revenue	Unit op. cost	Unit lab. cost	Efficiency	Average lab. cost	Unit fuel cost
1991	106	109	103	105	108	88	100	102	102	101	103	84
1992	99	103	96	119	114	80	98	100	101	107	108	75
1993	100	100	90	133	118	82	101	98	99	116	115	67
1994	100	98	87	142	123	71	98	94	101	124	125	62
1995	99	97	86	151	128	67	99	93	98	129	127	61
1996	100	101	88	155	135	80	102	94	98	129	126	72
1997	102	105	85	148	131	81	104	94	100	129	129	69
*1998	107	105	84	151	127	71	108	96	106	127	134	61

**Note:** \* = First-half year. European indices = weighted average of BA, Lufthansa and KLM. US indices = American, Delta, United and Southwest. Unit revenue = airline revenue per ATK. Unit operating cost = cost per ATK. Unit labour cost = salary, social charges and pension costs per ATK. Efficiency = ATKs per employee. Average labour cost = salary, social costs and pension cost per employee. Unit fuel cost = fuel expenditure and taxes per ATK.

### FINANCIAL TRENDS (1990=100)

	Inflation (1990=100)					Exchange rates (against US\$)						LIBOR 6 month Euro-\$	
	US	UK	Germany	France	Japan	UK	Germ.	France	Switz.	Euro**	Japan		
1990	100	100	100	100	100	1990	0.563	1.616	5.446	1.389	0.788	144.8	8.27%
1991	104	106	104	103	103	1991	0.567	1.659	5.641	1.434	0.809	134.5	5.91%
1992	107	107	109	106	105	1992	0.570	1.562	5.294	1.406	0.773	126.7	3.84%
1993	111	109	114	108	106	1993	0.666	1.653	5.662	1.477	0.854	111.2	3.36%
1994	113	109	117	110	107	1994	0.653	1.623	5.552	1.367	0.843	102.2	5.06%
1995	117	112	119	112	107	1995	0.634	1.433	4.991	1.182	0.765	94.1	6.12%
1996	120	114	121	113	107	1996	0.641	1.505	5.116	1.236	0.788	108.8	4.48%
1997	122	117	123	114	108	1997	0.611	1.734	5.836	1.451	0.884	121.1	5.85%
1998	123	120	124	115	109	1998	0.603	1.759	5.898	1.450	0.896	130.8	5.51%***
*1999	125	122	126	116	108	Nov 1999	0.620	1.918	6.433	1.569	1.020	104.6	5.77%***

**Note:** \* = Forecast. **Source:** OECD Economic Outlook, December 1998. \*\*Euro rate quoted from January 1999 onwards. 1990-1998 historical rates quote ECU. \*\*\* = \$ LIBOR BBA London interbank fixing six month rate.

### NARROWBODY LEASE RATES

Model	Age	Rental (\$m)	Model	Age	Rental (\$m)	Model	Age	Rental (\$m)
A319	1996-99	270,000	737-600	1998-99	280,000		1973-81	66,500
A320-200	1988-93	285,000	737-700	1997-99	300,000			
	1994-99	325,000	737-800	1978-99	340,000	MD-81	1979-85	160,000
A321-100	1994-99	320,000	757-200	1982-90	295,000		1986-92	197,500
A321-200	1997-99	355,000		1991-99	360,000	MD-82	1981-87	185,000
727-100(CH)	1965-71	45,000	757-200ER	1988-92	325,000		1988-95	215,000
727-200A	1977-83	72,000		1993-99	387,500	MD-83	1985-91	197,000
737-200A	1971-76	42,000	BAe146-100	1982-87	120,000		1992-97	235,000
	1979-87	71,000		1988-93	140,000	MD-87	1987-93	167,500
737-300	1984-91	220,000	BAe146-200	1984-93	150,000	MD-88	1987-92	200,000
	1992-99	265,000	BAe146-300	1988-93	165,000		1993-97	240,000
737-400	1988-93	235,000	F28-4000	1976-84	55,000	MD-90	1995-98	265,000
	1994-99	275,000	F100	1987-96	157,000			
737-500	1994-99	237,500	DC-9-30	1967-72	48,000			

**Source:** Aircraft Value Journal, Sep/Oct 99.

### JET AND TURBOPROP ORDERS

	Date	Buyer	Order	Price	Delivery	Other information/engines
ATR	Nov 30	Air Austral	1 ATR-72		July 2000	
Airbus	Nov 8	SALE	20 A320s, 3 A321s		3Q00+	Confirmation of previous MoU
	Nov 17	Midwest(Egypt)	2 A320s		2002	+2 options CFM56-5B4/P
	Nov 26	Air 2000	5 A320 2 A321		2000-02	
BAe	-	-	-			
Boeing	-	-	-			
Bombardier	Nov 11	Cimber Air	2 CRJ-200s	\$46m		+ 4 options
	Nov 8	Shandong	5 CRJ200	\$116m		
Embraer	-	-	-			
Fairchild Dornier	-	-	-			

**Note:** Prices in US\$. Only firm orders from identifiable airlines/lessors are included. MoUs/Lots are excluded. **Source:** Manufacturers.



# Aviation Strategy

## Micro-trends

	Group revenue	Group costs	Group operating profit	Group net profit	Total ASK	Total RPK	Load factor	Group rev. per total ASK	Group costs per total ASK	Total pax.	Total ATK	Total RTK	Load factor	Group employees
	US\$m	US\$m	US\$m	US\$m	m	m	%	Cents	Cents	000s	m	m	%	
<b>Korean Air</b>														
Jan-Mar 98														
Apr-Jun 98														
Jul-Sep 98	TWELVE MONTH FIGURES													
Oct-Dec 98	3,283	3,063	219	212	58,246.4	40,190.3	69.0	5.64	5.26	25,557		9,480.0		17,050
Jan-Mar 99														
Apr-Jun 99														
Jul-Sep 99														
<b>Malaysian</b>														
Jan-Mar 98														
Apr-Jun 98														
Jul-Sep 98	SIX MONTH FIGURES													
Oct-Dec 98	860	958	-98	-11			57.2							
Jan-Mar 99														
Apr-Jun 99														
Jul-Sep 99														
<b>Singapore</b>														
Jan-Mar 98	2,336	2,080	256	258	39,093.6	26,224.3	67.1	5.98	5.32	5,822	7,303.0	4,951.5	67.8	
Apr-Jun 98	SIX MONTH FIGURES													
Jul-Sep 98	2,232	2,013	219	278	41,466.2	29,456.2	71.0	5.38	4.86	6,240	7,693.4	5,225.2	67.9	
Oct-Dec 98	SIX MONTH FIGURES													
Jan-Mar 99	2,421	2,130	291	341	41,725.5	30,843.7	74.9	5.80	5.10	6,537	7,958.5	5,540.3	69.6	
Apr-Jun 99	SIX MONTH FIGURES													
Jul-Sep 99	2,577	2,259	317	346	43,145.7	32,288.3	74.8	5.97	5.24	6,752	8,251.9	5,852.7	70.9	
<b>Thai Airways</b>														
Jan-Mar 98	631	558	73	610	12,211.0	8,522.0	69.8	5.17	4.57	4,000	1,715.0			
Apr-Jun 98	586	583	3	-121	12,084.0	7,963.0	65.9	4.84	4.82		1,700.0			
Jul-Sep 98	629	584	45	176	12,118.0	8,769.0	72.4	5.19	4.82					
Oct-Dec 98	727	647	80	170	12,599.0	9,195.0	73.0	5.77	5.14					
Jan-Mar 99	675			125										
Apr-Jun 99	651			93										
Jul-Sep 99														
<b>Air France</b>														
Jan-Mar 98	5,126	5,079	47	18										
Apr-Jun 98	SIX MONTH FIGURES													
Jul-Sep 98	5,088	4,894	194	228	49,724.0	38,070.0	76.6	10.23	9.84					
Oct-Dec 98	SIX MONTH FIGURES													
Jan-Mar 99	5,550	5,552	-2	56	51,394.0	38,242.0	74.4	10.80	10.80					
Apr-Jun 99	SIX MONTH FIGURES													
Jul-Sep 99	5,249	4,889	360	316										
<b>Alitalia</b>														
Jan-Mar 98														
Apr-Jun 98														
Jul-Sep 98	TWELVE MONTHS FIGURES													
Oct-Dec 98	5,152	4,432	720	235	51,638.4	35,427.2	68.8	9.98	6.86	24,103			18,825	
Jan-Mar 99														
Apr-Jun 99														
Jul-Sep 99														
<b>BA</b>														
Jan-Mar 98	3,335	3,210	125	119	39,256.0	26,476.0	67.4	8.50	8.18	9,311	5,485.0	3,642.0	66.4	60,770
Apr-Jun 98	3,783	3,497	286	217	44,030.0	31,135.0	70.7	8.59	7.94	11,409	6,174.0	4,157.0	67.3	62,938
Jul-Sep 98	4,034	3,601	433	357	46,792.0	35,543.0	76.0	8.62	7.70	12,608	6,533.0	4,630.0	70.9	64,106
Oct-Dec 98	3,585	3,431	154	-114	44,454.0	29,736.0	66.9	8.06	7.72	10,747	6,277.0	4,111.0	65.5	64,608
Jan-Mar 99	3,343	3,481	-138	-119	43,544.0	29,537.8	67.8	7.99	7.99	10,285	6,130.0	3,933.0	64.2	64,366
Apr-Jun 99	3,527	3,378	149	302	45,813.0	32,032.0	69.9	7.70	7.37	11,733	6,437.0	4,215.0	65.5	65,179
Jul-Sep 99	3,933	3,742	191	49	47,465.0	35,873.0	75.6	8.29	7.88	12,983	6,690.0	4,689.0	70.1	65,607
<b>Iberia</b>														
Jan-Mar 98														
Apr-Jun 98														
Jul-Sep 98	TWELVE MONTH FIGURES													
Oct-Dec 98	4,451	4,100	351	356	45,041.6	32,520.0	72.2	9.88	9.10	21,753		3,740.0		22,065
Jan-Mar 99														
Apr-Jun 99														
Jul-Sep 99														
<b>KLM</b>														
Jan-Mar 98	1,538	1,568	-30	528	17,595.0	13,240.0	75.2	8.74	8.91		2,995.0	2,259.0	75.4	33,227
Apr-Jun 98	1,702	1,572	130	105	18,600.0	14,290.0	76.8	9.15	8.45		3,177.0	2,365.0	74.4	35,666
Jul-Sep 98	1,865	1,675	190	121	19,363.0	15,984.0	82.6	9.63	8.65		3,359.0	2,583.0	76.9	33,586
Oct-Dec 98	1,673	1,661	12	-15	18,476.0	13,767.0	74.5	9.05	8.99		3,214.0	2,415.0	75.1	33,761
Jan-Mar 99	1,550	1,670	-120	-45	17,716.0	13,294.0	75.0	8.75	9.43		3,088.0	2,284.0	74.0	33,892
Apr-Jun 99	1,626	1,547	79	37	18,778.0	14,302.0	76.2	8.66	8.24		3,253.0	2,427.0	74.6	34,980
Jul-Sep 99	1,731	1,596	135	32	19,630.0	16,083.0	81.9	8.81	8.13		3,352.0	2,640.0	78.8	35,226
<b>Lufthansa***</b>														
Jan-Mar 98	2,902	2,860	42	223	23,742.0	16,236.0	68.4	12.22	12.05	8,778	4,618.0	3,171.0	68.7	54,849
Apr-Jun 98	3,507	3,081	426	289	26,132.0	19,489.0	74.6	13.42	11.79	10,631	5,078.0	3,575.0	70.4	54,556
Jul-Sep 98	3,528	3,167	361	198	26,929.0	20,681.0	76.8	13.10	11.76	11,198	5,231.0	3,748.0	71.6	54,695
Oct-Dec 98	2,929	2,106	823	96	25,530.0	18,259.0	71.5	11.47	8.25	9,819	5,204.0	3,676.0	70.6	55,368
Jan-Mar 99	3,301	3,210	91	64	25,445.0	17,942.0	70.5	12.97	12.62	9,658	4,972.0	3,435.0	69.1	56,420
Apr-Jun 99	3,322	3,012	310	97	30,500.0	22,279.0	73.0	10.89	9.86	11,444	5,626.0	3,993	71.0	53,854
Jul-Sep 99	4,049	3,677	382	184	31,335.0	23,866.0	76.2	12.92	11.73	11,891	5,699.0	4,142.0	72.7	
<b>SAS</b>														
Jan-Mar 98	1,184	1,077	106	76*	7,761.0	4,628.0	59.6	15.25	13.88	4,863				24,722
Apr-Jun 98	1,323	1,149	174	107*	7,546.0	5,260.0	69.7	17.53	15.23	5,449				25,174
Jul-Sep 98	1,283	1,152	131	127*	8,283.0	5,843.0	70.5	15.49	13.91	5,714				26,553
Oct-Dec 98	1,368	1,266	102	46*	8,116.0	5,089.0	62.7	16.86	15.60	5,431				27,071
Jan-Mar 99	1,203	1,227	-24	-3*	8,062.0	4,713.0	58.5	14.92	15.22	5,017				27,110
Apr-Jun 99	1,357	1,294	63	60*	8,466.0	5,571.0	65.8	16.03	15.28	5,580				27,706
Jul-Sep 99	1,173	1,150	23	12*	8,450.0	5,667.0	67.1	13.88	13.61	5,589				27,589
<b>Swissair**</b>														
Jan-Mar 98	SIX MONTH FIGURES													
Apr-Jun 98	1,907	1,780	127	86	18,983.8	13,138.7	70.5	10.05	9.38	6,922				9,756
Jul-Sep 98	SIX MONTH FIGURES													
Oct-Dec 98	2,187	2,070	117	165	20,476.8	15,391.3	75.2	10.68	10.11	5,277				10,396
Jan-Mar 99	SIX MONTH FIGURES													
Apr-Jun 99	1,932	1,877	55	57	23,411.0	16,130.0	68.9	8.25	8.02	7,784				10,715
Jul-Sep 99														

Note: Figures may not add up due to rounding. 1 ASM = 1.6093 ASK. \*Pre-tax. \*\*SAirLines' figures apart from net profit, which is SAirGroup. \*\*\*Excludes Condor from 1998 onwards. 4Q+ data are on IAS basis.

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