Commercial aircraft of the world

Commercial aircraft requirement 1983-1997

MR/LR-600

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/ \ $23.1

/ MR/LR-400 \
/ $41.7 \

SR-1to7\ /^\ 17 8
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/ \ / \46 3 \
/ \ /LR-270N. \

/ SR-160 \ A-^ f ^v \

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\ / MR-270 \ / \ DD0

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SR-110 \
758 \

SR-160 /

1,589 /

$208.6 billion 4,424 units

McDonnell Douglas sees the world's airlines requiring aircraft worth some $208-6bn between 1983 and 1997 compared with the Boeing forecast for deliveries of $192-9bn to 1995. MDC divides the market amongst short-range (SR), medium-range (MR) and long-range (LR) aircraft and into seating capacities of 110, 160, 200, 270, 400 and 600 seats. The largest and most valuable market is for short-range 160-seaters. The forecast helps to explain the company's interest in the MD-100 and MD-3300 leaving the MR-200 and MR LR-600 slots to Boeing

between jetliners now in production and those
under consideration," this aircraft should argu-
ably be given a separate entry. Nevertheless, its
DC-9 lineage is clear and it after all provides
McDonnell Douglas with its cue "the most
successful manufacturer of twin-jet commercial transports". The production rate of the DC-9/MD-80 series remains below that of the 737-200/300 but there has been a revival during 1983 and deliveries are now being made against both leases funded principally by McDonnell Douglas and Pratt & Whitney and straight sales.

The arrangements made with American Airlines just over a year ago to lease 20 MD-82s were seen by many at the time to be revolu-tionary. MDC agreed to carry not only the cost of training but also of major maintenance. American paid a very low monthly rental amounting to some $2-2 miIlion-$2-4 million per year per aircraft but in return agreed to share the profits of its total 727/MD-82 fleet with MDC. MDC was able to sell the tax benefits allowable under US law and just as important maintain production on the DC-9/MD-80 line at an economic rate. The initial lease covered five years and was renew-able as a capital lease for 13 years. The five-year term was to allow American to move across to an all-new 150-seater should one become avail-able. TWA obtained similar terms when in October last year it acquired 15 MD-82s but the deal covering 30 aircraft for Alitalia was a sale —albeit on advantageous conditions. The Texas Air Corporation, which own Texas Inter-national, New York Air, and Continental, recently said it will acquire 11 MD-82s — but the exact terms of the deal have yet to be revealed. In addition, American now says it would like to lease a further 13 aircraft if satisfactory terms can be arranged. Discounting other smaller sales and operating leases concluded during the year, McDonnell Douglas has succeeded in turning round the prospects for the MD-80 and establishing it as the so-called "here and now" 150-seater.

The basic DC-9 flew for the first time in

February 1965 and there has been continuous development ever since. Having established the MD-80 series there are now two possible courses of action. Downwards towards the proposed 100-120 seat MD-90 and upwards towards one final stretch of the MD-80. The MD-90 would be powered by a de-rated version of the JT8D-200 series, as well as making use of MD-80 technology and parts from both the latest and earliest versions. A further stretch of the MD-80 might be powered by either the JT8D-200 series or the CFM56. The MD-90 seems the most likely prospect and MDC says it is prepared to go ahead on the basis of 20 sales. Programme Status: Sales of DC-9 series, excluding MD-80s, 973, all delivered and includes 43 military C-9s.
MD-80. Orders, 166. Delivered, 110. In addi-tion 35 aircraft are being built for short-term lease of which 15 have been delivered. There are conditional orders and options for an additional 74. These totals do not include 11 aircraft for Texas Air but do include 13 aircraft sought by American Airlines. Production rate, four per month.
DC-IO. Steady sales of used DC-10-30s shows there is a demand for an aircraft smaller in size than a 747 but larger than the A300 and 767. The TriStar is now effectively out of production and McDonnell Douglas can pause while it considers its options with the DC-10 line under-written by a new multi-year contract to supply 44 KC-lOs to the USAF. MDC stresses, however, that if a customer appeared for DC-10s, it would be slotted into the production programme.

McDonnell Douglas is currently steadying two developments of the DC-10 which it claims would cut fuel consumption by up to 23 per cent. The smaller MD-100 Series 10 could seat 270 passengers in mixed class while the longer MD-100 Series 20 would seat 333. Both would make use of new materials, have winglets, a two-crew cockpit and would be powered by the PW4000, CF6-80C2 or RB.211-600. The aircraft currently under study are rather heav-ier than the so-called MD-EEE proposed last

year and have better take-off performance. They need more power than is available from the PW2037 or RB.211-535H4.
The MD-100-10 and -20 are both optimised around long-range operations. The smaller * aircraft would be about 6jft shorter than the - DC-10-10/30 while the larger would be about 202ft longer. Delivery dates would be early 1987 and mid-1988 respectively. A date of November 1 has tentatively been set as a decision point but it also depends on airline reaction. Possible customers include JAL, Lufthansa, SAS, and Qantas.
In the longer term MDC sees a requirement for a whole family of MD-lOOs including a -30 45ft longer than the -10 and weighing some 580,0001b.
Programme Status: DC-10, all models: Orders, 366. Delivered, 366. KC-10A: Orders,

60. Delivered, 17. Production, one per month.

MD-3300. Both the MD-90 and the MD-100 appear to have a higher priority than the proposed 150-seat MD-3300. It is unlikely to be optimised around a derivative engine such as the CFM56-4 and with an all-new engine some way away - and the Super 80 selling reasonably well — is unlikely to receive an early launch. The configuration has been revised recently to include a low rather than a T-tail but the project remains essentially a design study. McDonnell Douglas might have seemed a natu-ral partner for the Europeans but for its unsatisfactory experience with Fokker and the fact that an agreement on the A320 now might be taken to signal the end of the MD-80.

EASTERN BLOC

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It is sometimes said that looking at Soviet airliners is like looking at animals in a zoo. It is interesting—but has little relevance for normal day-to-day life. While this is something of an overstatement it does include an element of truth and very few Western operators, or airlines in the developing world for that matter, take Soviet civil types very seriously unless there is an over-riding political consideration. This does not mean that Soviet developments are not relevant or that Aeroflot, as the world's largest airline, does not need to be taken into account when assessing growth and output or when planning air transport infra-structure. It does mean, however, that Aviaexport, the offi-cial Soviet marketing agency for the Ilyushin, Tupolev, and Yakovlev ranges, has a hard time selling on commercial terms outside the Eastern Bloc.

It would be quite wrong to under-rate Soviet aircraft, it is just that they have been designed, and still continue to be designed, to a different set of priorities. Certification procedures stress different criteria and the aircraft tend to be simpler, heavier, and more rugged—but not necessarily safer.
One Soviet requirement has traditionally been the ability to take off and land on prim-itive airfields and even dirt strips; heavier
structure has been traded for lower airfield
investment. The aircraft may be viable in the
wider economic sense rather than in the strict
financial sense of the West. There has,
however, been a steady level of expenditure on

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