

KEEPING IT LOCAL

Fleet expansion by carriers in the Middle East and North Africa is fuelling a need for more local capacity

MICHAEL GUBISCH LONDON

Huge aircraft orders placed by Gulf carriers at the Dubai air show in November 2013 have raised questions as to how the region's future fleet can be maintained.

Most airlines in the Middle East and North Africa conduct airframe checks through in-house technical departments. But despite a number of MRO facility construction projects, it is not clear whether that capacity and the technical capabilities will be sufficient to support the future fleet. Much may depend on the extent to which the newly ordered aircraft will be used for fleet growth or replacements.

For example, Emirates plans to operate aircraft for about 12 years before they are replaced with new fleet entries. That age marks a typical point in an aircraft's life cycle where maintenance is becoming more intensive and potential findings are less predictable, both of which lead to higher costs and longer downtimes.

However, that fleet-renewal model is in reality not working quite as planned, because there is insufficient demand for mature aircraft from potential buyers, particularly for

widebodies. For example, Emirates has a number of Airbus A330s, A340s and Boeing 777s which are up to 18 years old.

Today's secondary market is not liquid enough to take over such aircraft in significant numbers, says Rob Morris, a consultant with Flightglobal advisory service Ascend.

PASSENGER-TO-FREIGHT CONVERSIONS

Selling mature aircraft for passenger-to-freighter conversions has been a central part of the secondary market in the past. But the number of P2F conversions has collapsed with the declines and volatility in the air cargo segment. Leased aircraft may be easily returned to their owners at the end of their operational term.

But if the equipment is owned by the airlines, the phase-out will be more tricky. Aircraft may thus stay longer in operation and require maintenance capacity which is also needed for younger fleet entrants. Given the low demand for mature widebodies, airlines need to have a holistic asset management strategy that includes the retirement of their aircraft, says Morris.

The 20 largest airlines in the Middle East and North Africa operate around three-quar-



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ters of the region's approximately 1,600-strong commercial passenger fleet, while the remaining 60-odd carriers have comparatively small fleets with up to about 20 aircraft. Nearly 40%

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TURKISH TECHNIC GETS IT DOWN TO A 'T'

TURKISH AIRLINES is expanding its maintenance footprint as the flag carrier's technical arm struggles to support the rapidly growing fleet while building up its third-party after-market standing.

In 2013 the airline group acquired MRO provider MNG Technic, based at Istanbul's Atatürk airport, after the carrier's own facilities at the capital's main hub became too small. Turkish Technic had been operating out of two hangars at the airport on the city's European side. The hangars have a combined capacity for five wide- and seven narrowbody aircraft.

The two facilities – each including a range of backshops – had been adequate when Turkish operated around 70 aircraft a decade ago. However, the airline's fleet size has since tripled and, in 2006, Turkish Technic was reorganised as a wholly-owned standalone MRO provider, which should get half of its business from third-party customers.

Only around a quarter of revenue comes from external clients today, as the parent airline's fleet growth has been "beyond our expectations", says Turkish Technic general director Ismail Demir. In 2012, the MRO specialist generated a turno-

ver of just over \$800 million, with an operational profit of nearly \$31 million. However, revenues are targeted to nearly double to \$1.5 billion by 2017, says Demir.

At Sabiha Gökçen International airport on Istanbul's Asian side, the group has been building a massive greenfield MRO complex named Habom with international partners. However, the completion of the initial narrowbody hangar – a separate widebody facility is still being built – was delayed. The facility, set to accommodate up to 11 single-aisle aircraft, was due to open in 2013, but the MRO provider was still in the

approval process in December. This delay was a factor in the acquisition of MNG Technic.

PRIORITISING HABOM

Atatürk airport is set to close after operations move to Istanbul's planned new main hub northeast of the city – the first construction phase of which is scheduled for 2017. Turkish took over MNG Technic on the assumption that Atatürk airport will be closed circa 2022, says Demir. The MRO provider thus does not want to make significant investments in its existing hangars. Rather, it is focusing on



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of the total fleet is operated by the four largest carriers – Emirates, Turkish Airlines, Saudi Arabian Airlines and Qatar Airways.

Emirates and Turkish are by far the largest carriers with 196 and 191 aircraft respectively, Flightglobal's Ascend Online database showed in December, although the Turkish figure excludes the airline's wholly owned low-cost subsidiary Anadolu Jet and SunExpress, its charter venture with Lufthansa. Etihad is trailing behind with a 78-strong fleet that is a third smaller than its

next-largest rival, Qatar Airways. However, the Abu Dhabi carrier is growing fast with up to 290 aircraft on order and is building up its global influence through shareholdings in a number of international airlines.

Three quarters of the 20 largest operators conduct airframe maintenance either in-house or through closely associated MRO providers, such as AnadoluJet using its parent's MRO organisation, Turkish Technic. Also, Etihad does not have its own technical operations, but the state carrier supports its fleet

through Abu Dhabi Aircraft Technologies, the MRO subsidiary of the emirate's investment fund, Mubadala.

The three largest carriers – Emirates, Turkish and Saudia – have their own large technical operations. Emirates is building four additional hangars for its MRO facility at Dubai International Airport, which thus far comprises seven A380-sized maintenance bays and a separate paint hangar. However, plans for further expansion have already been discussed. »

the Habom site and the new airport. Meanwhile, MNG Group – which includes construction companies and a cargo airline – was looking to sell its maintenance facility. The 25,000m² (269,000ft²) hangar – which has a staff of around 1,000 – was opened in 2011.

However, with Atatürk airport due to close within a decade, “you need quick return and a full hangar in winter and summer” to amortise the investment, says Ahmet Karaman, the new managing director of the facility under Turkish's ownership. “That's not possible just with third-party customers,” he says.

“According to our studies, that [P2F] market could be viable after 2017

ISMAIL DEMIR
General director, Turkish Technic

After the acquisition, the former MNG hangar was merged with the new MRO operation at Sabiha Gökçen airport, and renamed Turkish Habom. That unit was formally set up as a sister company of Turkish Technic to concentrate on airframe maintenance and third-

party MRO, while the latter is to focus on component repairs and more lucrative, engineering-based work, says Demir. “Our labour rates are lower than most of Europe. However, we cannot bet [on that] because there are other... countries, for example, Egypt or countries in the Middle East and far east, which have lower labour costs than ours,” he says.

“We are now going in a direction to lower our labour costs with the MNG move... and having MNG and Habom under a different roof,” says Demir. He adds that man-hour rates alone are rarely the only criteria in

MRO contracts, as airlines are generally willing to pay a premium to ensure certain quality standards and turnaround times. “So we put price and quality together, and in these terms we will be very good,” he says. MNG started converting Airbus A300-600 passenger aircraft into freighters (P2F conversions) after the maintenance specialist took over the supplemental type certificate from B/E Aerospace subsidiary Flight Structures in 2011. Turkish wants to continue that activity to maintain the necessary skills, although it is not clear what types could be converted once the »

» While the Gulf carrier is purely focused on its own fleet, Turkish aims to generate half of its MRO business from third-party customers. In particular, the new Habom maintenance complex at Istanbul's Sabiha Gökçen airport has been built to support external clients, such as Pegasus Airlines, which has hired one bay inside the new narrowbody hangar.

Operators such as Gulf Air, Oman Air and Afriqiyah Airways have firm orders for 40 A330s

Saudia Aerospace Engineering Industries (SAEI) supports Saudia's fleet, although widebody heavy checks have been contracted to Evergreen Aviation Technologies in Taiwan. Qatar Airways has thus far outsourced its maintenance, but the airline has built a massive MRO complex at Qatar's future Hamad International Airport, which is to be used for light and heavy checks.

Despite the hangar-building boom, Lufthansa Technik chief executive August Wilhelm Henningsen expects that there will not be enough base maintenance capacity for the region's rapidly growing fleet, even among the three main Gulf carriers. The German MRO provider would thus be interested in establishing a facility in the region with a local airline, he told Flightglobal at the Dubai air show.

More than half of the passenger fleet in the Middle East and North Africa are 737s and A320s. Turkish has the largest narrowbody fleet with 65 737s at an average age of 7.3 years and 85 A320s that are 4.5 years old on average. Saudia is the second largest single-aisle operator with 50 A320s averaging 2.6



Orders for the A380 make up a significant proportion of the region's fleet expansion plans

years in age. Qatar follows with 45 A320s of an average 5.3 years old, while 3.5 years is the comparable figure for Pegasus's 42-strong, mainly 737-based fleet.

AVERAGE FLEET AGE

In fifth place comes Egyptair with a young 737 fleet averaging just under four years, but the carrier's 16 A320s and A321s have matured and have an average of 16 years.

Tunisair, too, has an ageing fleet that includes seven 737-600s built between 1999 and 2001, as well as 18 A320-family aircraft, the oldest of which was built in 1990. How-

ever, the carrier has introduced five new A320s since 2010 and is due to receive another five in the current year.

In the widebody arena, the 777 is by far the most popular model with 238 in-service aircraft – or nearly 15% of the region's fleet. Emirates is the long-haul twinjet's largest operator with 121 units averaging 5.7 years in age. Another 61 firm and 20 optional 777-300ERs are due for delivery to Emirates until 2021, which will thereafter be followed by 150 firm orders for the successor 777X generation.

Saudia and Qatar are the next biggest 777 operators. Two thirds of Saudia's 34

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TURKISH TECHNIC GETS IT DOWN TO A 'T'

» A300 modifications have petered out, given the twinjet's dwindling fleet. "We have in the past seriously studied the conversion business for A320s and A330s," says Demir, but adds that "Airbus was not willing to co-operate with us by sharing [engineering] data."

UNCERTAIN PROSPECTS

Turkish Technic would have to reverse-engineer an STC which, he admits, would be a long project without much promise for return, given the slump in the air freight market. Weak demand for air cargo has led to a sharp decline in P2F



2012 turnover was \$800 million

conversions since 2008. However, Demir says that the plans are not completely off the table. Turkish operates extensive A320 and A330 fleets. "According to our studies, that [P2F] market could be viable after 2017.... By that time, we can still think about that," he says.

Engine and component repairs as well as strategic partnerships with MRO providers, manufacturers and other specialists are to drive future business growth. Turkish Technic opened a joint venture engine overhaul shop for CFM International CFM56 and International Aero Engines V2500

powerplants with Pratt & Whitney at Sabiha Gökçen in 2010.

COMPONENT FACILITIES

With Goodrich, the MRO provider set up a repair facility for nacelles, thrust reversers and related components a few miles from the Habom site. However, Demir says that the latter operation will likely be relocated into the maintenance complex, which also includes other component facilities wholly owned by Turkish Habom. A repair shop for wheels and brakes and another for hydraulics have thus far become operational. »

» GE90-powered 777s are 12 to 16 years old, but the carrier has rejuvenated the fleet with 11 777-300ERs since 2011 and has firm orders for another nine. Qatar's 32 777s, meanwhile, have an average age of just under three years, with the oldest aircraft being six years old. The Doha-based carrier has orders for up to 18 additional 777s and signed a tentative deal for 50 777-9Xs at the Dubai air show.

The A330 is the next most popular widebody with 158 units. Its largest operators are Qatar with 29 aircraft (average age circa eight

years), and Etihad with a 25-strong fleet averaging at 5.5 years. Emirates has 22 A330 that are 10 to 15 years old. Apart from two planned deliveries to Etihad in 2014, the three Gulf carriers have no firm orders for the A330 as their focus has shifted to the 787, 777 and A350. Together, the three airlines have total orders of up to 805 aircraft from those widebody families.

Turkish is still growing its 20-strong A330 fleet. While the existing aircraft are about 4.5 years old on average, the carrier has 18 addition-

al A330s on order. In total, operators such as Gulf Air, Oman Air and Afriqiyah Airways have firm orders for 40 A330s.

The A380 plays a particular role in the region's MRO landscape. While Emirates – which has the world's largest fleet with 42 aircraft – has ordered a further 98 superjumbos, Etihad and Qatar are much more cautious about the type with only 10 firm orders each. ■

 Flightglobal Pro's premium service provides news, data and analysis on MRO sector flightglobal.com/MRO

20 LARGEST AIRLINES IN MENA REGION AND THEIR FLEETS

	Boeing					Airbus					Bombardier	Embraer	BAE Systems	Fokker	McDonnell Douglas	
	Grand Total	737	747	767	777	787	A300/ A310	A320	A330	A340	A380	CRJ900	E-Jet	BAe 146/ RJ Avro	F-100	MD-80/90
Emirates Airline	196	-	-	-	121	-	-	-	22	11	42	-	-	-	-	-
Turkish Airlines	191	65	-	-	15	-	-	85	20	6	-	-	-	-	-	-
Saudia	132	-	16	-	34	-	-	50	16	-	-	15	-	-	-	1
Qatar Airways	119	-	-	-	32	9	-	45	29	4	-	-	-	-	-	-
Etihad Airways	78	-	-	-	18	-	-	24	25	11	-	-	-	-	-	-
Egyptair	70	21	-	-	9	-	-	16	11	1	-	12	-	-	-	-
Pegasus Airlines	42	40	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Mahan Air	41	-	2	-	-	-	22	2	-	2	-	-	-	13	-	-
Royal Air Maroc	41	36	1	4	-	-	-	-	-	-	-	-	-	-	-	-
EI Al	37	19	6	6	6	-	-	-	-	-	-	-	-	-	-	-
Iran Air	37	-	4	-	-	-	13	5	-	-	-	-	-	-	14	1
Air Arabia	34	-	-	-	-	-	-	34	-	-	-	-	-	-	-	-
FlyDubai	34	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anadolu Jet	33	30	-	-	-	-	-	3	-	-	-	-	-	-	-	-
Air Algerie	30	22	-	3	-	-	-	-	5	-	-	-	-	-	-	-
Tunisair	30	9	-	-	-	-	2	18	-	-	-	1	-	-	-	-
Royal Jordanian	29	-	-	-	-	-	-	14	3	4	-	8	-	-	-	-
Oman Air	28	17	-	-	-	-	-	-	7	-	-	4	-	-	-	-
Flynas	26	-	2	-	-	-	-	18	-	-	-	6	-	-	-	-
Gulf Air	26	-	-	-	-	-	-	20	6	-	-	-	-	-	-	-
Total	1254	293	31	13	235	9	37	336	144	39	42	1	45	13	14	2

SOURCE: Flightglobal Ascend

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» A research and development department was established in November 2012, to concentrate on projects such as engine washing and maintenance-data collection. But the engineering capabilities were also employed to set up its own manufacturing base for aircraft equipment, particularly cabin interior installations, as a follow-up to classic airframe maintenance.

Together with Turkish Aerospace Industries, the MRO provider established a cabin interior systems joint venture in 2010. Now part of the Habom complex, this business has developed galleys to be retrofitted

to Turkish Airlines' Boeing 737-800s from 2014, and is undergoing supplier approval by the US airframer to become future line-fit equipment. A similar retrofit project is currently under way for the airline's A330 fleet.

SEAT REPLACEMENT

Turkish Seat Industries is a comparable joint venture with Izmit-based car-seat manufacturer Assan Hanil. The partnership has developed an economy-class seat to be installed on Turkish 737s, 777s and A320s, says Demir. The seat is going through the final certification stag-

A research and development department was established in November 2012

es and will initially be employed to replace seats made by Koito Industries installed on around 15 aircraft in Turkish's fleet, he says.

Koito's equipment has been subject to airworthiness directives after it emerged in 2010 that the Japanese manufacturer had falsified safety-test results on

around 150,000 seats installed across some 1,000 aircraft in the world fleet.

While economy-class seats will be the first stage, designs for future business-class accommodation are already in the drawer, says Demir.

"What we want to establish for the seats is a full-service centre. Complete shipsets will be taken out of [the] aircraft, completely renovated and put back on the aircraft with all spares and part support available nearby the seat company," he adds. Unsurprisingly, that venture is also to become part of the Habom complex in future. ■