Between 2000 and 2010 China's domestic market sustained an average annual capacity growth rate of 12.5%. The domestic network thus more than tripled in size. The market is characterised by a large number of high-density routes served at high frequencies with narrowbodies.

China's development into the world's second largest jetliner market

The rapid growth of China's domestic market has caught the aviation industry's attention over the past 10 years. The number of operations and capacity more than tripled from 2000 to 2010 *(see table, page 18)*. This rapid rise is equal to a compound annual growth rate of 12.5% over the decade; one of the fastest rates of development in the industry worldwide, and only about 1% higher per year than the annual growth rate of the Indian market *(see The rapid rise of the Indian market, Aircraft Commerce, April/May 2011, page 13)*.

This high rate of development has led to a need for a large number of new aircraft over the past decade. High rates of traffic and capacity growth are forecast to continue. Analysis of development in China over the past 10 years reveals that overall average aircraft size has changed little: 737s and the A320 family account for most of the fleet; most of the big airline groups and airlines have increased capacity at similar rates; a lot of new routes have been opened; and the number of operations and seat capacity provided by regional aircraft have grown at a slower rate than mainline jet operations.

China demographics

The People's Republic of China (PRC) has the largest population in the world, with about 1.3 billion people in an area of about 3.7 million square miles. By comparison, the US, which is slightly larger at almost 3.8 million square miles has a population of nearly 300 million.

Most of China's population, 1.1-1.2 billion people, lives in the eastern half of the country; an area of 1.7 million square miles. Another 65-70 million live in the seven western provinces, which have a total area of just over 2.0 million square miles, and include Inner Mongolia in the north and Tibet in the west. A further 15 million people live on the islands of Hainan, Macau and Hong Kong.

To illustrate the concentration of the population in the east, about 850 million people live in a core of 16 eastern provinces, which have an area of 800 million square miles. This results in a population density of about 1,060 people per square mile.

At the northernmost point of this core is the Laioning province, with its capital of Shenyang. Guangxi and Guangdong, with their capitals of Nanning and Guangzhou respectively, are the most southern provinces in this core. Chengdu is the capital of the westernmost province, Sichuan. This group of provinces is at the most about 1,500nm from north to south, and about 1,000nm west to east.

The capital cities of these provinces are Beijing, Shanghai, Guangzhou, Tianjin, Shenyang, Shijiazhuang, Taiyuan, Jinan, Zhengzhou, Nanjing, Hefei, Wuhan, Changsha, Nanchang, Hangzhou and Fuzhou.

To put this core into perspective, it comprises the same land area as the 25 US states east of the Wabash and Mississippi rivers. These 25 states have a combined population of about 150 million people, and a population density of less than 200 people per square mile.

By comparison, The Netherlands has a population density similar to the 16 core provinces of eastern China.

The high population density of these core provinces clearly leads to many large cities, located within a few hundred miles of each other. Consequently the majority of domestic city-pairs served by Chinese airlines are less than 600nm.

Adjacent to this core of 16 provinces are another seven provinces which have a population of 300 million and an area of 871,000 square miles. Population density is therefore lower, at about 325 people per square mile. These provinces include: Heilongjiang and Jilin to the northeast of the core provinces; and Chongqing, Guizhou, Sichuan, Yunnan and Gansu to the west and south of the core provinces. The major cities in these five latter provinces are Chongqing, Guiyang, Chengdu, Kunming and Lanzhou.

There are 20 cities in China with populations of at least five million. The big three cities are Guangzhou, Shanghai and Beijing. The greater Guangzhou area includes Shenzhen, Dongguan, Huizhou and Jiangmen, and has a population of more than 41 million. The greater Shanghai area has a population of about 26 million, while the greater Beijing area has a population of about 20 million.

The large number of closely located population centres has resulted in many high-density airline routes. Analysis shows that traffic growth on these routes has been absorbed by an increase in service frequencies. A large number of airlines operate on these routes, and all increased their frequencies from 2000 to 2010.

There are two consequences of this: average aircraft size has changed little on most city-pairs; and there are relatively few city-pairs with low traffic volumes that would require operation with regional aircraft.

Operations with regional aircraft grew by 87% from 2000 to 2010. In 2010 they only accounted for about 9% of total capacity in China, with only 141 regional aircraft being operated. Despite this relatively low rate of development, there are more than 200 firm orders outstanding for the Comac ARJ21 large regional jet. A large number of these are held by Henan Airlines, which is owned by Shenzhen Airlines, part of the Air China group.

Airlines

Since 2000, the majority of operations and capacity in China's domestic market have been provided by four main airline groups. The largest is the China Southern airlines group, which accounted for about 725,000 annual services and provided about 115 million seats in 2010 *(see table, page 18)*.

The China Eastern group provided about 483,000 flights and 75 million seats in 2010, while the Air China group performed about 521,000 operations and provided about 83 million seats.

The Hainan Airlines group of airlines accounted for 166,000 operations, which generated about 26 million seats.

All four of these airline groups used aircraft in the 737 and A320 families for most of their services, so aircraft size averaged about 160 seats as a result *(see table, page 18)*. These four main groups provided about 96% of China's total domestic seat capacity in 2010. The four airline groups also operate nearly 1,300 of the 1,420 aircraft used for domestic operations in 2010. More than 1,200 of these are mainline jets, of which 1,100 are Airbus and Boeing narrowbodies.

In addition to the four main airline groups, there are seven independent airlines, which account for the remaining 4% of annual seat capacity. They operated about 150 aircraft in the Chinese domestic network in 2010, about half of which were mainline jets. Four of these airlines are regional carriers: Tianjin Airlines, Okay Airlines, China Express Airlines and Hebei Airlines.

The China Southern group is led by China Southern, which has its main base at Guangzhou. China Southern absorbed Zhongyuan Airlines, China Northern Airlines and China Xinjiang Airlines in 2000 and 2001 following the Civil Aviation Administration of China's (CAAC) policy of merging a large number of carriers into three big groups. China Southern increased its overall operation by about 160% from 2000 to 2010.

China Southern also acquired majority shareholdings in Xiamen Airlines, Sichuan Airlines, Chongqing Airlines and Chengdu Airlines (formerly United Eagle Airlines). These airlines, in particular Sichuan Airlines, have grown at a faster rate.

With merged airlines and partners, the China Southern group now has main hubs at the big three cities, plus Chongqing, Xiamen, Chengdu, Shenyang and the remote north-western city of Urumqi. The airline operated about 460 aircraft on domestic operations in 2010. About 440 of these were mainline jets.

The China Eastern group is the second largest airline group. Its main operating base has been at Shanghai's two airports. China Eastern took over Great Wall Airlines in 2001, while Yunnan Airlines and China Northwest were merged into China Eastern in 2003. Through these mergers China Eastern gained additional hubs. In 2009 China Eastern and Shanghai Airlines, which also operates from both Shanghai airports, merged. Shanghai Airlines' operation and capacity is about half the size of China Eastern's.

The group also includes China United Airlines, in which Shanghai Airlines has a majority shareholding, and Joy Air, which is a new Chinese airline, launched jointly by China Eastern and aircraft manufacturer AVIC 1. Joy Air is based at Xi'an, Shaanxi province, and operates mainly in north-western China. It has a small fleet of MA-60 turboprops, and orders to increase this to 50 aircraft, as well as a further 50 COMAC ARJ-21 regional jets on order.

The third main group is the Air China group. Air China, based at Beijing, was merged with China Southwest and China National Aviation; getting Chengdu as another major hub in the process. Air China has also become a major shareholder in Shenzhen Airlines; giving it major hubs of Shenzhen, Guangzhou, Shenyang, Nanning and Nanjing. Shenzhen is also a major shareholder of Henan Airlines. It operates from a base in Zhengzhou, in Henan province. The airline has a small fleet of E-190s, but has up to 100 ARJ21s on order. It operates to major cities in the surrounding provinces.

This group grew its operation and capacity at the fastest rate from 2000 to 2010, due mainly to Shenzhen Airlines, which increased the size of its operation by a factor of 10.

Hainan Airlines, based at Haikou on the island of Hainan, is the main airline in the fourth major airline group. This has been joined by two new airlines: Lucky Air, based in the south-west city of Dali; and China West, based at Chongqing.

Six of the seven independent airlines have all started operations since 2000. The largest is Tianjin Airlines, which started operations in 2007 as Grand China Express Air. Its hubs are Tianjin and Xi'an, and the more remote cities of Hohhot and Urumqi. Tianjin Airlines is the one carrier that operates a lot of regional routes, and these are from a large number of major cities. It operates ERJ-145s and E-190s, and Do328 turboprops for Hainan Airlines on some of its route network.

Juneyao Airlines has a small operation from both Shanghai airports, using A319s and A320s. Spring Airlines has a similar operation and fleet.

Okay Airlines is a small operator based at Tianjin, which started operations in 2005.

China Express Airlines began operations in 2006, and Hebei Airlines started its operation halfway through 2010. China Express has a hub at Guiyang in Guizhou province, and operates a small fleet of five CRJs. Hebei Airlines has fleet of six aircraft, including two ERJ-145s.

Major hubs

The domestic operation in China serves up to 180 airports, although only 110 of these have significant numbers of services. The top 40 airports dominate the market, accounting for 93% of domestic seat capacity in 2010.

The top four airports in China (Beijing, Guangzhou and the two Shanghai airports) account for 30% of total capacity: a total of 537,000 flights and 94 million seats.

The top 20 airports accounted for 74% of total domestic capacity. These 20 airports include Shenzhen, Chengdu, Hong Kong, Kunming, Hangzhou, Xiamen, Nanjing, and Qingdao. Thirteen are in the 16 core provinces, and 16 are in the 23 most populated provinces. One of the remaining four airports is Urumqi, in the north-west corner of China. This is a major hub for the region and province of Xinjiang.

The top 40 airports account for 93% of domestic capacity, and include 25 from the core 16 provinces, and 32 in the 23 most populated provinces. The second 20 busiest airports include Shenyang, Fuzhou, Tianjin, Wenzhou, Nanning, and Ningbo.

Only five of the top 40 airports are from provinces outside the 23 most populated provinces.

An analysis of operations and capacity data at the top 20 busiest airports reveals that the China Southern airline group accounts for 36% of capacity. It is also the dominant carrier at 11 airports, including Guangzhou, Chengdu, Hangzhou, Chongqing, Xiamen, Nanking and Dalian. Moreover, the airline group is the second largest at the nine other top 20 airports. This firmly makes the China Southern group the most dominant carrier in the busiest markets.

The China Eastern and Air China groups are similar in ranking in these busiest markets. The China Eastern group is the dominant at five of the top 20 airports, including both Shanghai airports,

CHINESE AIRLINE DOMESTIC OPERATIONS 2000 & 2010

Main Hub(s)	Major airline	Domestic operations 2000	Domestic seats 2000	Average aircraft size 2000	Domestic operations 2010	Domestic seats 2010	Average aircraft size 2010
Guangzhou,	China Southern	126,093	20,796,660	165	504,377	79,841,072	158
Beijing,	China Northern	48,504	7,738,572	160			
Chongqing &	China Xinjiang	14,332	2,271,130	158			
Urumqi	Sub-total	18,929	30,806,362	163	504,377	79,841,072	158
Xiamen	Xiamen Airlines	36,621	6,176,406	169	114,767	19,523,752	170
Chengdu	Sichuan Airlines	1,098	140,032	128	90,979	13,866,830	152
Chengdu	Chengdu Airlines				13,301	1,847,487	139
Total China Southern Group		**226,648**	**37,122,800**	**164**	**723,424**	**115,079,141**	**159**
Shanghai,	China Eastern	47,620	8,981,177	189	386,945	59,068,894	152
Kunming,	China Yunnan	39,275	6,220,951	158			
& Xi'an	China Northwest	48,662	7,586,114	156			
	Sub-total	135,557	22,788,242	156	386,945	59,068,894	156
Shanghai	Shanghai Airlines	24,684	4,941,180	200	84,881	14,457,510	170
Beijing	China United Airlines				6,277	1,003,623	160
Xi'an	Joy Air				4,396	241,780	55
Total China Eastern Group		**160,241**	**27,729,422**	**173**	**482,499**	**74,771,807**	**155**
Beijing,	Air China	54,046	9,341,938	173	317,558	52,293,275	165
Chengdu &	China Southwest	58,702	10,192,072	174			
Chongqing	China National Aviation	10,393	1,169,899	113			
	Sub-total	123,141	20,703,909	168	317,558	52,293,275	165
Shenzhen	Shenzhen Airlines	14,324	2,005,360	140	130,445	20,207,000	155
Jinan	Shandong Airlines	28,193	2,628,773	93	73,311	10,334,868	141
Total Air China Group		**165,658**	**25,338,042**	**153**	**521,314**	**82,835,143**	**159**
Haikou	Hainan Airlines	29,970	3,313,430	111	127,816	21,019,814	164
Dali	Lucky Air				24,092	3,138,022	130
Chongqing	China West Air				13,845	1,852,421	134
Total Hainan Airlines Group		**29,970**	**3,313,430**	**111**	**165,753**	**26,010,257**	**157**
	Trans North Aviation	3,455	392,383	114	4,661	823,530	177
Tianjin	Tianjin Airlines				59,238	4,700,874	79
Shanghai	Juneyao Airlines				23,949	3,698,703	154
Shanghai	Spring Airlines				15,018	2,703,240	180
Tianjin	Okay Airways				7,244	1,100,660	152
Guiyang	China Express Airlines				10,129	506,450	50
Shijiazhuang	Hebei Airlines				7,116	445,224	63
	China Xinhua Airlines	15,174	2,185,056	144			
	Chang-An Airlines	7,112	355,600	50			
	Shanxi Airlines	1,282	66,664	52			
	Fujian Airlines	4,112	560,740	136			
Overall total		**613,652**	**97,064,137**	**158**	**2,020,345**	**312,675,029**	**155**

Kunming, Xi'an, Nanjing. The airline also accounts for 24.3% of capacity at these airports. The Air China group, in contrast, accounts for 26.4% of capacity at these 20 airports. The group is dominant at only three airports: Beijing, Shenzhen and Qingdao. The group, however, is the second most dominant at another nine airports, including Guangzhou, Shanghai (SHA), Chengdu and Hangzhou.

The Hainan group of airlines is dominant at Haikou, but the fourth most dominant airline at most of the other top 20 airports. Overall, it accounts for 8.6% of capacity at the 20 airports.

Together, these four main airline groups account for 95% of capacity from the top 20 airports. The remaining smaller independent airlines provide the other 5% of capacity. Tianjin and Juneyao are the two largest of this group.

Busiest routes

Close analysis reveals that there are a large number of routes from the busiest airports which are high-density and fast-growing.

High-density routes are those with a one-way annual seat capacity of 350,000 or more seats, or about 1,000 or more seats per day. Considering the average aircraft size of 156 seats, this is equal to five or six daily services.

Many routes in the Chinese domestic market are high-density. Of a total of 1,400 domestic city-pairs, 125 have annual one-way seat capacities of more than 350,000 seats. The four busiest city-pairs in the mainland Chinese domestic network are: Beijing (PEK) - Shanghai (SHA); PEK - Chengdu (CTU), PEK - Guangzhou (CAN); and PEK -Shenzhen (SZX). The next six busiest routes are CAN-SHA, SHA-SZX, Hangzhou (HGH) -PEK, PEK-Xi'an, CAN-HGH and PEK-Kunming. These top 10 routes have annual one-way seat capacities of 1.2 million and 3.8 million seats.

More than 200 of these high-density

CHINA'S TOP 40 BUSIEST AIRPORTS DOMESTIC OPERATIONS DATA

Airport name	Airport code	2010 One-way operations	2010 One-way Seats	Number of route served
Beijing	PEK	211,024	38,519,815	108
Guangzhou	CAN	137,156	22,387,225	89
Shanghai	SHA	95,623	17,545,510	70
Shanghai	PVG	92,985	15,978,834	76
Shenzhen	SZX	89,607	15,417,653	73
Chengdu	CTU	94,897	15,118,272	72
Hong Kong	HKG	54,971	12,260,026	46
Kunming	KMG	75,562	11,275,813	61
Xi'an	XIY	76,188	11,275,033	61
Hangzhou	HGH	64,507	10,272,818	54
Chongqing	CKG	63,007	9,197,884	63
Changsha	CSX	53,219	8,325,757	57
Taipei	TPE	30,101	7,883,125	37
Xiamen	XMN	48,491	7,815,466	54
Wuhan	WUH	51,388	7,642,708	54
Nanjing	NKG	49,172	7,474,801	53
Qingdao	TAO	43,223	6,491,498	45
Dalian	DLC	37,925	5,744,423	50
Zhengzhou	CGO	38,228	5,560,858	42
Urumqi	URC	38,727	5,366,230	44
Sanya	SYX	29,024	4,675,000	48
Haikou	HAK	30,026	4,538,209	43
Shenyang	SHE	29,196	4,511,359	50
Jinan	TNA	28,823	4,298,804	39
Fuzhou	FOC	26,149	4,216,352	37
Harbin	HRB	25,552	3,983,164	40
Tianjin	TSN	28,693	3,882,463	45
Guiyang	KWE	27,638	3,793,719	39
Wenzhou	WNZ	23,048	3,328,806	38
Taiyuan	TYN	24,428	3,278,712	42
Nanning	NNG	22,356	3,217,142	33
Nanchang	KHN	21,859	3,189,540	35
Guilin	KWL	20,611	3,136,740	34
Ningbo	NGB	18,037	2,856,722	35
Changchun	CGQ	18,601	2,814,262	38
Lanzhou	LHW	16,592	2,471,371	29
Hefei	HFE	17,158	2,469,362	36
Hohhot	HET	18,034	2,105,353	37
Macau	MFM	11,513	1,891,050	25
Yinchuan	INC	11,673	1,750,591	21

routes are served from the top 30 busiest airports. Beijing has the highest number at 35, while Guangzhou has 24. Shanghai Hongqiao (SHA) has 13 high-density routes, while Shanghai Pudong (PVG) has just seven.

The busiest routes serving Beijing are SHA (3.73 million seats), Chengdu (1.96 million seats), Guangzhou (1.96 million seats) and Shenzhen (1.95 million seats). Beijing has another seven routes with more than 1.0 million seats each way per year, and 14 routes with an annual one-way capacity exceeding 0.5 million seats per year.

The largest routes serving Guangzhou are to Beijing (1.96 million seats), SHA (1.83 million seats), Hangzhou (1.18 million seats) and Chengdu (1.17 million seats). Guangzhou also has another nine routes swith annual seat capacities of 0.5-1.0 million.

The busiest routes from SHA are Beijing, Guangzhou, Shenzhen and Xiamen. Another four routes have annual one-way capacities exceeding 0.5 million.

Other airports with a large number of high-density city-pairs are Chengdu (12), Kunming (11), Shenzhen (14) and Xi'an (10).

The top 30 airports have a higher number of city-pairs that have experienced high rates of capacity development. The average growth in capacity across the whole domestic network from 2000 to 2010 has been 222%. This is equal to seat capacity increasing by a factor of 3.3.

Of the whole domestic network of 1,400 city-pairs, 300 have experienced total growth rates of 222% or more from 2000 to 2010. The top 30 airports have 459 of these fast-growing routes. Beijing has 44 city-pairs with capacity growth rates of at least this rate, while Guangzhou has 19 routes that have developed at a faster than average rate. Only a few city-pairs have a small number of routes with a faster than average rate of development. Airports that have a large number of routes with a high rate of capacity development include Hangzhou, Zhengzhou, Chengdu, Nanjing, Qingdao, Shenzhen, Tianjin, Wuhan and Xi'an.

New routes

Several hundred new mainland domestic routes were opened from 2000 to 2010. These have all been from 29 of the top 40 airports. Together, these several hundred new city-pairs have provided an annual capacity of 62 million seats. This is 30% of the increase in seats on domestic routes in mainland China over the 10-year period.

These several hundred new routes include a large number of routes with an annual one-way capacity of 30,000 seats or more. This volume is equal to a daily operation with a 737 or A319 about five times per week.

New routes from Beijing with at least this amount of capacity total 25. The number of new routes from other cities with at least this amount of annual one-way capacity are 10 from CAN, 18 from PVG, 16 from SHA and four from Xiamen.

Periphery

In addition to the mainland, China has domestic operations from Macau, Hong Kong and Taiwan to a large number of cities in mainland China. These operations account for about 25 million seats. This compares to the 312 million seats of the mainland domestic Chinese operations.

Operations to and from Macau have experienced only a modest rate of development from 2000 to 2010; with seat capacity only increasing by about 8%. The increase in seat capacity of the eight routes that have continued to operate during the 10-year period account for all this growth. The capacity provided by the 14 new routes that have been opened has been offset by five routes that have been discontinued.

The capacity on routes to and from Hong Kong grew by about 91% from 2000 to 2010. There are 35 routes that were continued during the 10 years to 2010, and frequencies and seat capacity of these city-pairs increased by 65%. Average aircraft size remained similar at just less than 200 seats; larger than the

CHINA'S TOP 20 BUSIEST DOMESTIC ROUTES

City-pair	Airport codes	2010 one-way operations	2010 one-way seats	Average aircraft seats	% growth in seats
Beijing-Shanghai	PEK-SHA	13,720	3,762,497	274	+14%
Beijing-Chengdu	PEK-CTU	10,004	1,973,936	197	+268%
Beijing-Guangzhou	PEK-CAN	7,671	1,959,421	255	+98%
Beijing-Shenzhen	PEK-SZX	8,002	1,954,206	244	+212%
Shanghai-Guangzhou	SHA-CAN	8,235	1,834,332	223	+142%
Shanghai-Shenzhen	SHA-SZX	7,657	1,668,850	219	+234%
Beijing-Hong Kong	PEK-HKG	6,736	1,575,157	234	+98%
Beijing-Hangzhou	PEK-HGH	8,131	1,437,646	177	+430%
Beijing-Xi'an	PEK-XIY	7,920	1,402,911	186	+142%
Guangzhou-Hangzhou	CAN-HGH	7,200	1,181,861	164	+309%
Beijing-Kunming	PEK-KMG	6,301	1,176,800	187	+197%
Guangzhou-Chengdu	CAN-CTU	7,147	1,170,048	164	+175%
Shanghai-Xiamen	SHA-XMN	6,703	1,136,502	172	+440%
Shanghai-Chengdu	PVG-CTU	6,366	1,094,813	172	+5,711%
Beijing-Nanjing	PEK-NKG	6,054	1,063,336	176	+233%
Beijing-Chongqing	PEK-CKG	6,140	1,005,992	164	+398%
Beijing-Dalian	PEK-DLC	5,810	1,004,299	173	+136%
Shanghai-Dalian	PVG-DLC	5,420	937,535	173	+239%
Shenzhen-Chengdu	SZX-CTU	5,660	914,740	162	+218%

average for the whole of the Chinese domestic market.

Nine new routes were added during this time, and provided another 2.4 million seats of capacity in 2010. Routes serving Hong Kong provided a total of about 16.2 million seats in 2010.

The biggest change from China's periphery has been to permit routes between Taiwan and mainland China. A large number of new routes have been launched from several cities in Taiwan since permission was first granted in the middle of the decade.

The majority has been launched from Taipei's two major airports: Taoyuan (TPE) and Songshan (TSA). A total of 33 new routes have been launched from TPE, 12 of which are high-density operations, including services to Beijing, Guangzhou, Zhengzhou, Chongqing, Changsha, Hangzhou, Ningbo, Nanjing, Shanghai, Shenyang, Shenzhen and Xiamen. The 33 new routes provide an annual capacity of about 5.6 million seats, most of which are accounted for by the 12 largest routes. Airlines operating these services from TPE include the Taiwanese carriers China Airlines, EVA Airways, Mandarin Airlines, Uni Airways and Transasia. Chinese airlines include the big three carriers plus Hainan, Shenzhen, Xiamen, Sichuan, Shanghai and Shandong.

Another 15 new routes have also been opened from TSA, and provide a capacity of a further 1.3 million seats. Four of these routes are high-density, serving Fuzhou, both Shanghai airports and Xiamen.

Regional operations

Regional operations account for less than 5% of total capacity in the entire Chinese domestic network. The total annual seat capacity was just over 15 million seats in 2010. About 9.1 million of these were on mainland Chinese domestic routes, and 5.9 million were for routes between the Chinese mainland and Hong Kong and Taiwan.

Regional aircraft are deployed on several hundred routes on mainland China. The majority, however, are routes where most of the capacity is provided by mainline jets. Regional aircraft are used on most routes to substitute the capacity provided by mainline jets.

Regional aircraft are operated by the three big airlines, Sichuan Airlines and Shanghai Airlines; as well as the regional operators of Tianjin, Okay, China Express, Hebei, Hong Kong Express and several Taiwanese operators. With the continued growth of Chinese domestic traffic, major airlines operating regional aircraft together with mainline jets are likely to phase out regional aircraft on many routes.

Tianjin is the largest regional carrier in China, with a fleet of more than 60 ERJ-145s and E-190s. Its two main operating bases are Tianjin and Xi'an. It operates to 21 destinations from Tianjin, and only five of these routes are operated purely with regional aircraft. The other 16 have capacity provided by mainline jets of other operators.

Similarly, Tianjin operates to 23 destinations from Xi'an. Only eight of these routes have purely regional aircraft providing all capacity, while jetliners provide the capacity on the other 15.

This illustrates the limited number of routes that only have enough traffic volume to support regional aircraft. Tianjin does, however, have plans to operate to a larger number of destinations in the future.

Future

It is forecast that growth in the Chinese domestic market will be less than in the past decade. Traffic is still expected to grow, however, at a rate of 8% per year over the next 20 years. Over a 10-year period this is equal to a growth in passenger numbers of 106%. This compares to passenger numbers increasing by a factor of 3.5 from 2000 to 2010.

Traffic growth is therefore expected to be slower over the next two decades. China will become the world's second largest market for aircraft over the next 20 years. Forecasts are that it will need up to 5,000 new aircraft during this period. This includes about 300 regional jets, but also about 3,500 narrowbody jetliners. The market for regional jets is likely to be filled mainly by Chinese aircraft, while the jetliner market is open to all manufacturers.

Although a large number of cities and city-pairs are already served in China's domestic market, more new airports and routes are likely to be opened. High levels of service frequencies are provided on a large number of routes. This implies that airlines could start to follow a strategy of increasing average aircraft size with continued traffic growth. This may increase demand for widebodies, particularly for operation on trunk routes. Airlines still need to increase their service frequencies on the majority of routes they serve, so narrowbodies will fill most of the demand for new aircraft.

Summary

The Chinese domestic market is characterised by a high-density population and many large cities. This has given rise to a large number of high-density routes. This has minimised the requirement for regional aircraft.

The past 10 years have seen airlines respond to high rates of traffic growth by developing networks with narrowbodies and raising service frequencies. Continued growth will see larger aircraft being employed on the busier routes, and further increases in frequencies with narrowbodies on smaller routes. AC