

Statistical Bulletin of Civil Aviation Industry Development in 2020

In 2020, under the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, the entire industry fully implemented the guiding principles of the Party's 19th National Congress and the Second, Third, Fourth and Fifth Plenary Sessions of the 19th Central Committee, as well as the Central Economic Work Conference. Guided by the new development philosophy and the underlying principle of pursuing progress while ensuring stability, the industry ensured stability on six key fronts and maintained support in six key areas. By following the general principles of "implementing one perception, ensuring simultaneous development of transport aviation and general aviation, guarding the three bottom lines, and making up for the four weak links" governing civil aviation activities in the 13th Five-Year Plan period, all entities in the industry strived to make a balance between COVID-19 response and safe development, and took solid steps to promote high-quality growth of civil aviation. Remarkable achievements were made thanks to the efforts of the whole industry.

I. Transport Aviation

In 2020, amidst the great shock brought forth by COVID-19, the civil aviation industry clearly grasped the developments of the pandemic,

made science-based decisions and took creative countermeasures in accordance with the requirements of "ensuring safe operation, giving priority to emergency transport, keeping risks under control and meticulously implementing policies". The industry coordinated COVID-19 response and safe development by adjusting response measures in view of the evolving COVID-19 dynamics. As a result, China's civil aviation took the lead in the world to return back with the fastest-recovering and best-performing air service market.

1. Transport Turnover

In 2020, the whole industry recorded a total transport turnover of

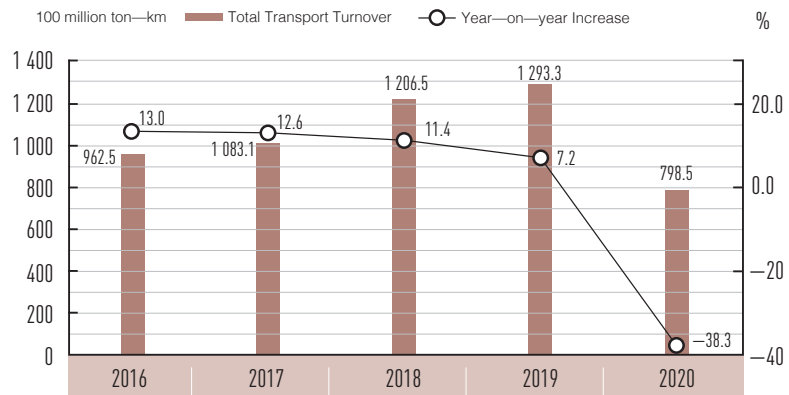


Figure 1 Total Transport Turnover of Civil Aviation 2016–2020

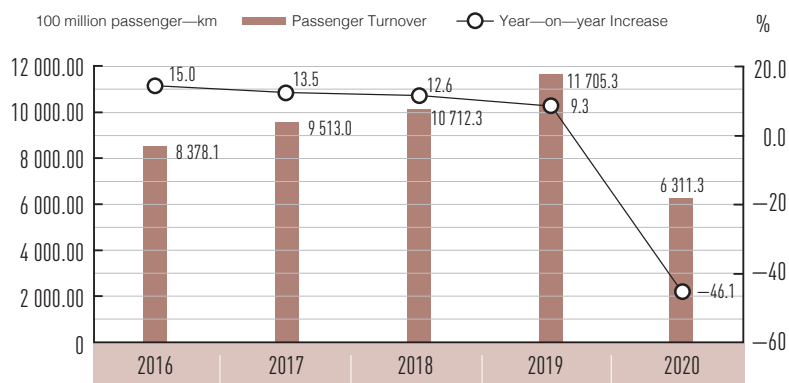


Figure 2 Passenger Turnover of Civil Aviation 2016–2020

79.851 billion ton-km, down 38.3% year-on-year. Domestic routes registered a total transport turnover of 58.767 billion ton-km, down 29.2% year-on-year, including 319 million ton-km on Hong Kong, Macao and Taiwan routes, down 81.1% year-on-year. The international routes witnessed a transport turnover of 21.083 billion ton-km, down 54.5% year-on-year.

A passenger turnover of 631.128 billion passenger-km was registered in the whole industry, down 46.1% year-on-year. The passenger turnover on domestic routes reached 586.887 billion passenger-km, down 31.1% year-on-year, of which 1.283 billion passenger-km was attributable to Hong Kong, Macao and Taiwan routes, down 92.0% year-on-year. The passenger turnover on international routes hit 44.241 billion passenger-km, down 86.1% year-on-year.

The whole industry registered a cargo and mail turnover of 24.020 billion ton-km, down 8.7% year-on-year. The domestic routes recorded 6.787 billion ton-km, down 13.6% year-on-year, including 207 million ton-km on Hong Kong, Macao and Taiwan routes, a 26.4% decline year-on-year. The international routes saw 17.233 billion ton-km, a 6.7% fall year-on-year.

2. Passenger Traffic

In 2020, the whole industry transported 417.778 million passengers, down 36.7% year-on-year. 408.213 million passengers were transported on domestic routes, down 30.3% year-on-year, including 961.3 thousand on Hong Kong, Macao and Taiwan routes, down

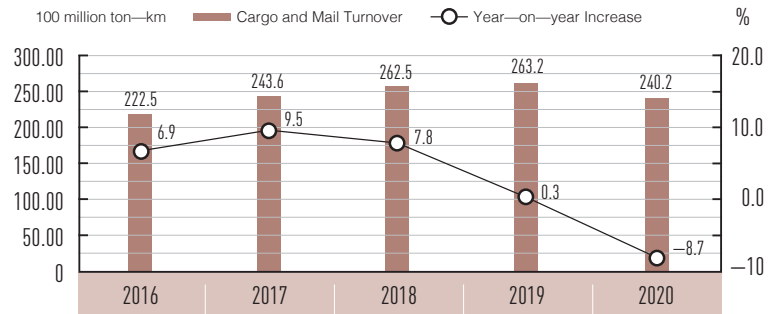


Figure 3 Cargo and Mail Turnover of Civil Aviation 2016–2020

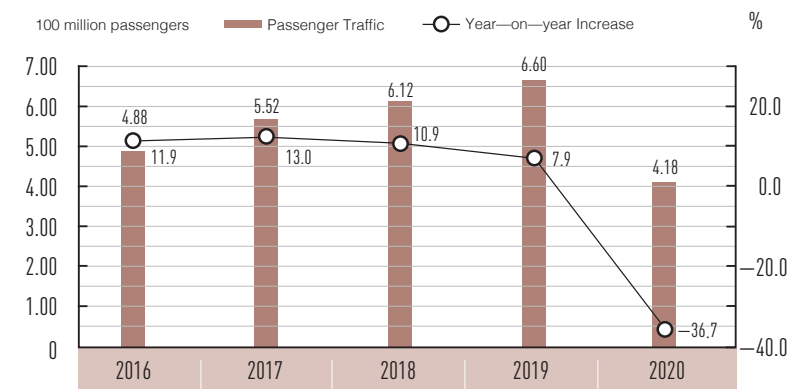


Figure 4 Passenger Traffic of Civil Aviation 2016–2020

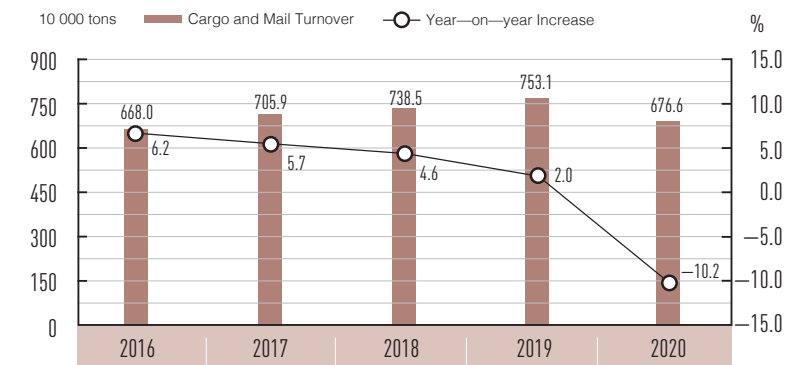


Figure 5 Cargo and Mail Transported by Civil Aviation 2016–2020

91.3% year-on-year. The international routes saw a passenger traffic of 9.565 million, down 87.1% year-on-year.

3. Cargo and Mail Traffic

In 2020, the whole industry transported 6.766 million tons of cargo and mail, down 10.2% year-on-year. 4.535 million tons of cargo and mail were transported on domestic routes, down 11.3% year-on-year,

including 175.8 thousand tons on Hong Kong, Macao and Taiwan routes, down 20.9% year-on-year. The international routes saw a cargo and mail traffic of 2.231 million tons, down 7.8% year-on-year.

4. Flight Hours and Take-offs

In 2020, transport airlines in the whole industry posted 8.762 million flight hours, down 28.8% year-on-year. 7.882 million flight hours were flown on domestic routes, down 20.5% year-on-year, including 35.5 thousand flight hours on Hong Kong, Macao and Taiwan routes, down 82.3% year-on-year. The international routes saw 879.9 thousand flight hours, down 63.3% year-on-year.

In 2020, transport airlines in the whole industry performed a total of 3.711 million take-offs, down 25.3% year-on-year. 3.573 million take-offs were for domestic flights, down 20.2% year-on-year, including 16.5 thousand take-offs for flights to/from Hong Kong, Macao and Taiwan, down 80.3% year-on-year. International routes saw 137.9 thousand take-offs, down 71.8% year-on-year.

In 2020, transport airlines in the whole industry registered 33.6 thousand non-commercial flight hours, including 11.3 thousand flight hours for training, and performed 55.7 thousand non-commercial take-offs.

5. Number of Transport Airlines

By the end of 2020, there were a total of 64 transport airlines in China, a net increase of 2 from that by the end of 2019, including 49 state-controlled

airlines and 15 privately-controlled airlines if categorized based on the type of ownership. Among all the transport airlines, there were 11 all-cargo airlines, 9 joint venture airlines and 8 publicly listed airlines.

6. Transport Aircraft Fleet

By the end of 2020, the civil aviation industry had 3 903 registered transport aircraft, 85 more than that by the end of 2019.

Table 1 Number of Transport Aircraft in 2020

Aircraft Categories	Number of Aircraft	Increase from 2019	Percentage of Transport Fleet (%)
Total	3 903	85	100.0
Passenger Aircraft	3 717	72	95.2
Including:			
Wide-body Aircraft	458	1	11.7
Narrow-body Aircraft	3 058	61	78.3
Regional Aircraft	201	10	5.2
Freighters	186	13	4.8

7. Route Network

By the end of 2020, there were 5 581 scheduled routes in China, which included 4 686 domestic routes (including 94 routes connecting the mainland with Hong Kong, Macao and Taiwan) and 895 international routes. The total route distance was 13.577 million km if the overlapped distance was counted in, or 9.426 million km if the overlapped distance was deducted.

Table 2 Number of Scheduled Routes and Mileage in China in 2020

Indicator	Value
Number of Air Routes	5 581
Domestic Air Routes	4 686
Including: Hong Kong, Macao and Taiwan Air Routes	94
International Air Routes	895
Air Route Mileage Including Overlapped Distance (10 000 km)	1 357.72
Domestic Air Routes	925.92
Including: Hong Kong, Macao and Taiwan Air Routes	13.68
International Air Routes	431.80
Air Route Mileage Excluding Overlapped Distance (10 000 km)	942.63
Domestic Air Routes	559.76
Including: Hong Kong, Macao and Taiwan Air Routes	13.68
International Air Routes	382.87

By the end of 2020, 237 domestic cities were served by scheduled flights (excluding Hong Kong, Macao and Taiwan); Chinese airlines operated scheduled international flights to 153 cities in 62 countries; Domestic airlines operated scheduled flights to Hong Kong from 25 mainland cities, to Macao from 17 mainland cities and to Taiwan from 43 mainland cities.

8. Operations of Transport Airlines (Groups)

In 2020, China National Aviation Holding Group recorded 2.001 million flight hours. It registered a total transport turnover of 19.451 billion ton-km, down 38.9% year-on-year, and carried 90.246 million passengers, a year-on-year decline of 36.7%, and 1.773 million tons of cargo and mail, a 13.4% fall year-on-year.

China Eastern Air Holding Group recorded 1.588 million flight hours. It registered a total transport turnover of 14.217 billion ton-km, down 43.7% year-on-year, and carried 74.619 million passengers and 1.177 million tons of cargo and mail, a year-on-year decline of 42.7% and 19.9% respectively.

China Southern Air Holding Group recorded 2.077 million flight hours. It registered a total transport turnover of 20.796 billion ton-km, down 36.3% year-on-year, and carried 96.856 million passengers and 1.461 million tons of cargo and mail, a respective year-on-year decline of 36.1% and 17.2%.

Hainan Airlines Group recorded 1.195 million flight hours. It registered a total transport turnover of 10.184 billion ton-km, down

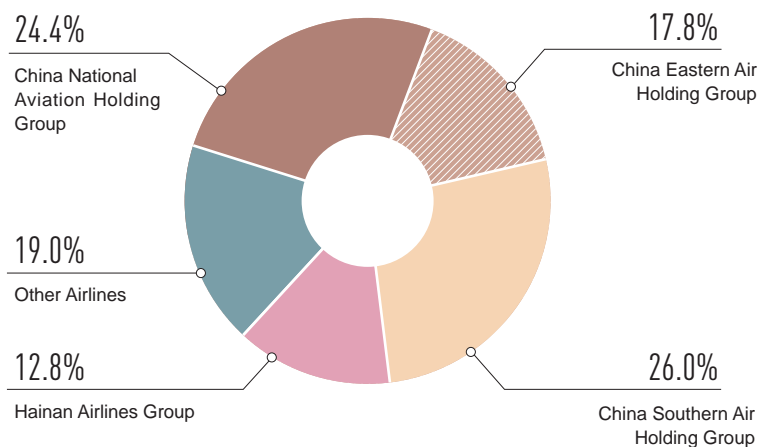


Figure 6 Proportions of Total Transport Turnover by Airlines (Groups) in 2020

49.4% year-on-year, and carried 64.016 million passengers, a year-on-year decline of 43.6%, and 571.7 thousand tons of cargo and mail, a 32.1% fall year-on-year.

In 2020, all other airlines together recorded 1.902 million flight hours. They registered a total transport turnover of 15.202 billion ton-km, down 21.9% year-on-year, and carried 92.042 million passengers, down 24.5% year-on-year, and 1.784 million tons of cargo and mail, up 26.5% year-on-year.

9. Transport Airports

By the end of 2020, there were 241 certified transport airports in China (excluding Hong Kong, Macao and Taiwan), a net increase of 3 from that by the end of 2019. Newly built airports in 2020 were Yulin Fumian Airport, Yutian Wanfang Airport, and Chongqing Xiannvshan Airport. In 2020, Ankang Wulipu Airport was relocated to Ankang Fuqiang Airport.

Table 3 Number of Certified Transport Airports by Region in 2020

Region	Number of Certified Transport Airports	Percentage of the Total (%)
Nationwide	241	100.0
Including: Northeast Region	54	22.4
East Region	36	14.9
West Region	124	51.5
Central Region	27	11.2

If classified based on the airfield area class, 13 of the certified airports were 4F, 38 were 4E, 38 were 4D, 147 were 4C, 4 were 3C and 1 was below 3C.

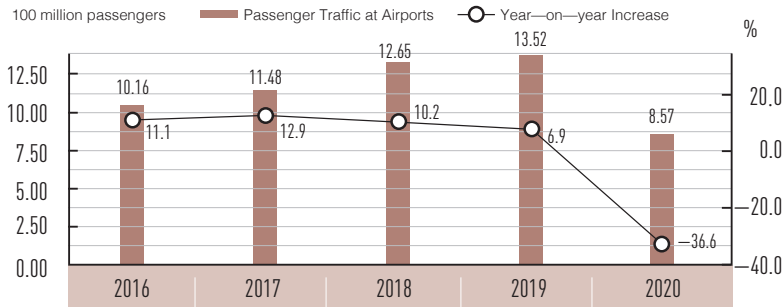


Figure 7 Passenger Traffic at Civil Transport Airports 2016–2020

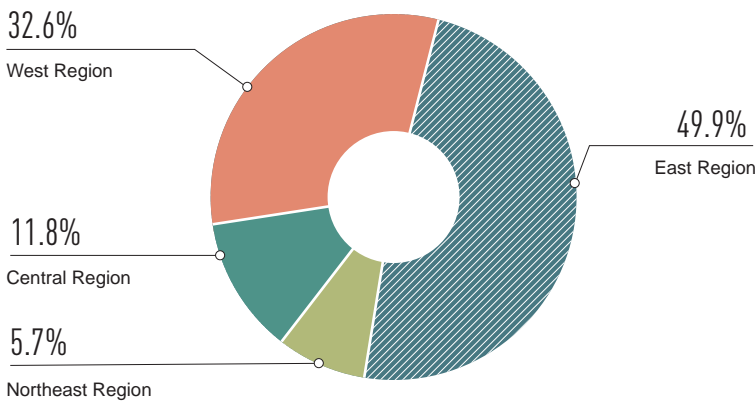


Figure 8 Distribution of Passenger Traffic at Airports by Region in 2020

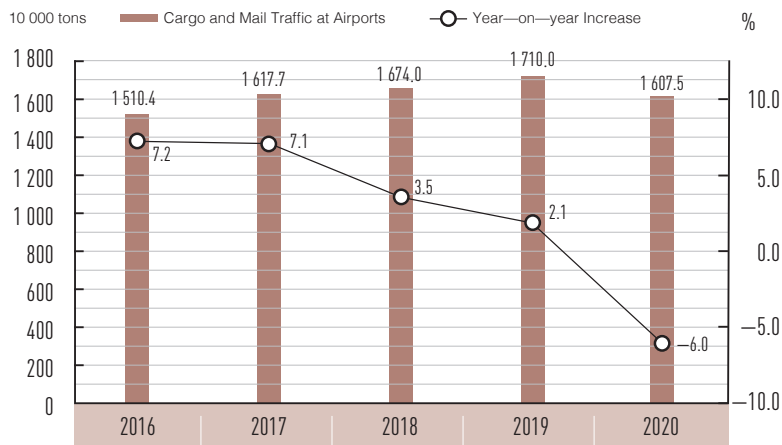


Figure 9 Cargo and Mail Traffic at Civil Transport Airports 2016–2020

In 2020, 114 airport projects were newly launched or carried over from 2019. 4 runways, 377 parking stands and 1.708 million square meters of terminal floorage were newly added. By the end of 2020, transport airports in China had 265 runways, 6 621 parking stands and 17.998 million square meters of terminal floorage.

10. Traffic Handled by Airports

In 2020, the civil transport airports across China handled a total of 857 million passengers, down 36.6% year-on-year.

Specifically, 427 million passengers were handled by airports in the eastern region, 101 million by airports in the central region, 279 million by airports in the western region, and 49 million by airports in the northeastern region, representing year-on-year declines of 39.8%, 34.8%, 30.8% and 41.0% respectively.

In 2020, civil transport airports across China handled a total of 16.075 million tons of cargo and mail, down 6.0% year-on-year.

Specifically, 11.684 million tons of cargo and mail were handled by airports in the eastern region, down 6.2%; 1.372 million tons by airports in the central region, up 10.0%; 2.520 million tons by airports in the western region, down 9.7%; and 499.4 thousand tons by airports in the northeastern region, down 17.3%.

In 2020, civil transport airports across China saw a total of 9.049 million movements, down 22.4% year-on-year, including 7.458 million movements for

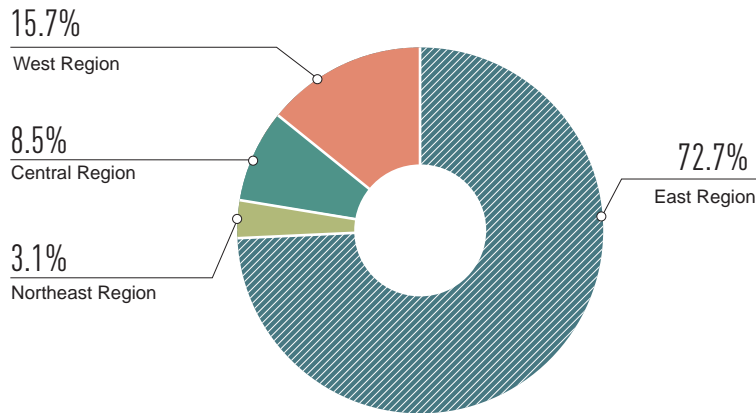


Figure 10 Distribution of Cargo and Mail Traffic at Airports by Region in 2019

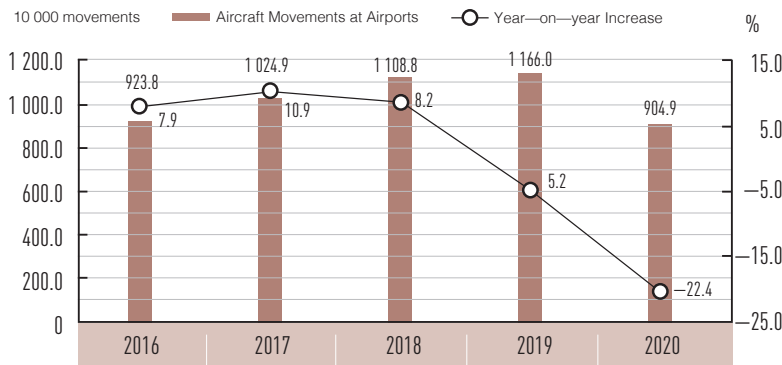


Figure 11 Aircraft Movements at Civil Transport Airports 2016–2020

Table 4 Number of Airports with Passenger Traffic Exceeding 1 Million in 2020

Annual Passenger Traffic	Number of Airports	Increase from 2019	Percentage of Total (%)
More Than 10 Million Passengers	27	-12	70.0
1~10 Million Passengers	58	-9	24.1

Table 5 Number of Airports with Cargo and Mail Traffic Exceeding 10 000 Tons in 2020

Annual Cargo and Mail Traffic	Number of Airports	Increase from 2019	Percentage of Total (%)
10 000 Tons or Above	59	0	98.6

commercial flights, a year-on-year fall of 24.4%.

In 2020, China had 85 transport airports with each having an annual passenger throughput of over 1 million passengers. The airports of Beijing, Shanghai and Guangzhou contributed 18.2% to the total traffic, a decrease of 4.2 percentage points from 2019.

In 2020, China had 59 transport airports with each having an annual cargo and mail throughput of over 10 thousand tons. The cargo and mail traffic handled by the airports of Beijing, Shanghai and Guangzhou accounted for 44.0% of the total, a decrease of 2.5 percentage points from 2019.

II. General Aviation

1. General Aviation Enterprises

By the end of 2020, there were 523 certified general aviation enterprises, including 111 in north China, 45 in northeast China, 131 in east China, 120 in central southern China, 64 in southwest China, 33 in northwest China, and 19 in Xinjiang.

2. Aircraft Fleet Size

By the end of 2020, there were a total of 2 892 registered general aviation aircraft, including 1 018 aircraft for training.

3. General Aviation Airports

In 2020, 93 general aviation airports were newly certified, adding the number of certified general aviation airports to 339.



4. Flight Hours

In 2020, the whole general aviation industry posted 984.0 thousand flight hours, down 7.6% from a year earlier, including 89.6 thousand hours of passenger-carrying operations, down 10.0% from 2019; 150.6 thousand hours of industrial aviation operations, a year-on-year fall of 6.2%; 369.4 thousand hours of training operations, down 4.4% year-on-year; 42.2 thousand hours of other GA operations, down 20.7% year-on-year; and 332.1 thousand hours of non-commercial operations, a year-on-year fall of 9.0%.

5. Unmanned Aircraft

By the end of 2020, there were 558 thousand registered unmanned aircraft users, including 498 thousand individual users and 60 thousand enterprises, public institutions and government entities, with the number of registered unmanned aircraft totaling 517 thousand.

By the end of 2020, there were 88 994 valid UA pilot licenses in China.

In 2020, unmanned aircraft that participated in the CAAC Unmanned Aircraft Cloud System flew a total of 1.83 million hours.

III. Transport Efficiency and Financial Performance

1. Transport Efficiency

In 2020, the industry-wide average daily use rate of registered transport aircraft stood at 6.49 hours, down by 2.84 hours from 2019. Specifically, the rate of medium and large sized aircraft was 6.61

hours, down by 2.88 hours from a year earlier, whereas that of small sized aircraft was 4.14 hours, down by 2.25 hours.

In 2020, the passenger load factor for scheduled flights averaged 72.9%, down by 10.3 percentage points from 2019.

In 2020, the freight load factor for scheduled flights averaged 66.5%, a 5.1 percentage points fall year-on-year.

Table 6 Passenger Load Factor and Freight Load Factor for Scheduled Flights in 2020

Indicator	Value (%)	Increase from 2019 (Percentage Points)
Passenger Load Factor of Scheduled Flights	72.9	-10.3
Domestic Air Routes	73.7	-10.9
Including: Hong Kong, Macao and Taiwan Air Routes	49.6	-28.2
International Air Routes	64.1	-15.4
Freight Load Factor of Scheduled Flights	66.5	-5.1
Domestic Air Routes	66.2	-7.4
Including: Hong Kong, Macao and Taiwan Air Routes	52.5	-12.0
International Air Routes	67.6	-0.6

2. Financial Performance

According to preliminary statistics, in 2020, the whole civil aviation industry made 624.691 billion yuan in business revenue, down by 41.1% from 2019 and -97.432 billion yuan in profit, down by 151.943 billion yuan from a year earlier. Specifically, airlines made 375.502 billion yuan in business revenue, down by 41.9% from a year earlier, and -79.446 billion yuan in profit, down by 105.193 billion yuan from 2019; airports made 88.297 billion yuan in business revenue, down by 28.1% from 2019, and -23.298 billion yuan in profit, down by 40.003 billion yuan from 2019; and support businesses made 160.892 billion yuan in business revenue, down by 44.8%, and 5.311 billion yuan in profit, down by 6.747 billion yuan from a year earlier.

According to preliminary statistics, in 2020, across the whole industry,

the revenue was 4.20 yuan per ton-km, down by 0.41 yuan from the previous year. Passenger revenue per ton-km was 4.93 yuan, down by 0.51 yuan from 2019; cargo and mail revenue was 2.53 yuan per ton-km, up by 1.09 yuan from 2019.

According to preliminary statistics, in 2020, the taxes payable by the whole civil aviation industry stood at 19.145 billion yuan, down by 20.845 billion yuan from 2019.

IV. Aviation Safety and Service Quality

1. Aviation Safety

In 2020, the civil aviation industry of China performed in a stable and controllable manner in terms of safe operation, with the 10-year rolling value of the major transport accident rate per million movements and the 10-year rolling value of death toll per 100 million passenger-km both standing at 0. There were 18 general aviation accidents, resulting in 13 deaths.

From August 25, 2010 to the end of 2020, transport aviation had been operating safely for "120+4" consecutive months, with an accumulated 89.43 million hours of safe operation.

2020 saw 440 transport aviation incidents, down by 22.8% year-on-year, including 4 severe incidents representing a decrease of 66.7% from 2019. The rate of severe incidents and the rate of incidents attributable to human factors per 10 000 flight hours were 0.005 and 0.023 respectively. All

safety indicators fell within the target ranges set for the year.

In 2020, a total of 49 transport airlines were free of human factors induced incidents.

2. Aviation Security

In 2020, the civil aviation security inspection units screened 411 million passengers, 168 million items of checked baggage, 568 million items of air cargo (excluding mail and express deliveries), and 201 million items of mail and express deliveries, handled 27 cases of unlawful interference involving fake terrorist threat information, and addressed 10 669 instances of security incidents, effectively ensuring sustained aviation security. By the end of 2020, civil aviation had operated with zero security accident attributable to human factors for 18 years in a row.

3. Flight Regularity

In 2020, passenger airlines in China operated 3.521 million flights in total, among which 3.116 million flights were punctual, resulting in an average flight regularity rate of 88.52%.

In 2020, major airlines operated 2.419 million flights in total, among which 2.148 million flights were punctual, resulting in an average flight regularity rate of 88.79%.

Table 7 Causes of Flight Irregularity in 2020

Item	% of the Total	Growth from 2019 (%)
Causes of Flight Irregularity for All Airlines	100.00	0.00
Including: Weather	57.31	10.81
Airlines	16.47	-2.44
ATC	0.76	-0.67
Others	25.46	-7.70
Causes of Flight Irregularity for Major Airlines	100.00	0.00
Including: Weather	58.76	11.29
Airlines	14.64	-3.72
ATC	0.98	-0.81
Others	25.62	-6.76



In 2020, the average delay of passenger flights in China was 9 minutes, 5 minutes shorter than the previous year.

4. Service Quality

By the end of 2020, 233 airports and major airlines had implemented paperless travel process. An average of 72.2% of domestic passengers used self-service check-in facilities at the 39 airports with an annual passenger traffic of over 10 million passengers. 8 airlines and 29 airports piloted the practice of checking baggage through to the ticketed destination for interline itineraries. 654 aircraft operated by 20 airlines provided cabin internet service to passengers, among which 213 aircraft by 11 airlines were capable of providing passengers with air-to-ground in-flight Wi-Fi connectivity. Over 1.822 million electronic air waybills were used for air cargo. The civil aviation service quality supervision hotline 12326 was put into service, and the response rate to the complaints against domestic airlines reached 100%.

In 2020, passenger satisfaction with airline and airport service quality came in at 4.30 and 4.41 (out of full score 5) respectively.

V. Education and Technological Innovation

1. Education

In 2020, universities and colleges directly under CAAC enrolled a total of 23 221 students, including 1 428 postgraduates, 21 295 undergraduates and junior college students, and 498 adult education students. 5 480 were flight students.

In 2020, there were 78 403 registered students at universities and colleges directly under CAAC, including 3 549 postgraduates, 71 392 undergraduates and junior college students, and 3 462 adult education students.

In 2020, a total of 18 314 students graduated from universities and colleges directly under CAAC, including 951 postgraduates, 15 493 undergraduates and junior college students, and 1 870 adult education students.

2. Technological Innovation

In 2020, 3 major national R&D projects of civil aviation and 18 key programs of NSFC Joint Funds were approved.

In 2020, a total of 98 technological achievements in civil aviation sector went through inspection and acceptance, and 31 projects were awarded the CATA Technological Innovation Award.

3. New Navigation Technologies

By the end of 2020, 20 airlines in the industry were capable of HUD operation, 1 278 aircraft were equipped with HUDs, 97 airports were capable of special category I HUD operation, 21 airports were capable of special category II HUD operation, and 14 airports were capable of taking off using HUD under visibility of 150 meters.

237 transport airports were capable of operating PBN flight procedures, 26 airports with complex terrain were capable of operating RNP AR procedures, 97% of the transport aircraft were equipped with ADS-B system, and 46 airlines were utilizing EFB.

VI. Professionals

1. Number of Pilots

By the end of 2020, there were a total of 69 442 valid pilot licenses in China's civil aviation industry, up 1 489 year-on-year, including 1 113 Sport Pilot Licenses (SPLs), 4 015 Private Pilot Licenses (PPLs), 37 881 Commercial Pilot Licenses (CPLs), 192 Multi-crew Pilot Licenses (MPLs) and 26 241 Airline Transport Pilot Licenses (ATPLs).

2. Other Professionals

By the end of 2020, there was 60 335 licensed maintenance staff in the industry,

Table 8 Statistics of Civil Aviation Pilot Licenses of China in 2020

Type of License	Number	Year-on-year Increase
Sport Pilot License (SPL)	1 113	-60
Private Pilot License (PPL)	4 015	-337
Commercial Pilot License (CPL)	37 881	2 552
Multi-crew Pilot License (MPL)	192	-1
Airline Transport Pilot License (ATPL)	26 241	-665
Total	69 442	1 489

1 211 more than that of 2019; and 8 994 licensed dispatchers, 550 more than those of the previous year.

By the end of 2020, there were a total of 33 102 ATM technicians in 4 categories, 2 138 more than that by the end of 2019, including 15 001 air traffic controllers, an increase of 1 173 over that of the previous year.

VII. Foreign Relations

In 2020, China had bilateral aviation talks or written consultations with 11 countries or regions. By the end of 2020, China had already signed 128 bilateral air services agreements with its counterpart countries or regions, up by 1 the (the Agreement between the Government of the People's Republic of China and the European Union on Certain Aspects of Air Services) from 2019, including 44 in Asia (including ASEAN), 27 in Africa, 38 in Europe (including European Union), 12 in Americas and 7 in Oceania.

In 2020, the Agreement on Civil Aviation Safety between the Government of the People's Republic of China and the European Union went into force, under which CAAC signed with EU Aviation

Safety Agency technical implementation procedures. By the end of 2020, 39 countries or regions had established bilateral airworthiness relations with China, with a total of 239 bilateral airworthiness documents currently in force.

VIII. Airworthiness Certification

In 2020, the entire industry saw an additional 657 aircraft go through the nationality registration process, including 136 newly registered commercial aircraft and a record high of 521 general aircraft.

In 2020, civil aviation airworthiness certification departments issued a total of 60 design approvals, 127 production approvals and 170 approvals for aviation fuel and chemical products.

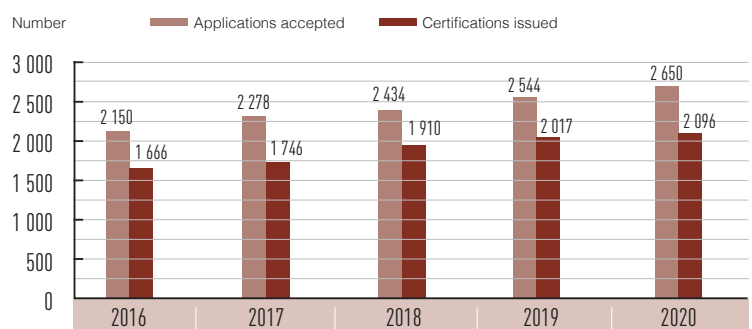


Figure 12 Number of Type Certification and Validation of Type Certification from 2016–2020

IX. Investment in Fixed Assets

In 2020, China's civil aviation made investment in fixed assets to the tune of 162.759 billion yuan, including 108.141 billion yuan in civil



aviation infrastructure development and technological upgrading, up 11.6% year-on-year.

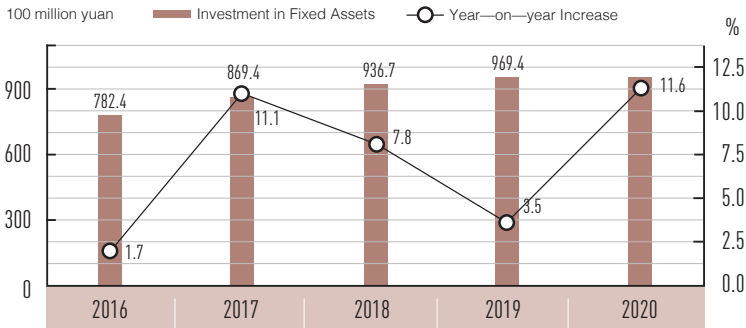


Figure 13 Investment in Civil Aviation Infrastructure Development and Technological Upgrading 2016—2020

X. Energy Conservation and Emissions Reduction

In 2020, 0.316 kg of fuel was consumed per ton-km in China’s civil aviation industry, down by 7.1% from 2005 (the baseline year for energy conservation and emissions reduction in the industry); the energy consumption per passenger at airports saw an approximate increase of 2.7%, compared with the average of the final three years of the 12th Five-Year Plan period (2013-2015).

In 2020, 289.7 thousand flights used temporary routes, cutting the flight distance by 12.32 million km, saving 66.5 thousand tons of fuel and cutting carbon dioxide emissions by 209.5 thousand tons.

By the end of 2020, among the ground support vehicles at civil airports, there were 6 700 electric ones, accounting for 16.3% of the total vehicles. Also, there were 3 300 recharging facilities. All the airports with an annual passenger throughput of more than 5 million passengers had installed and put into use alternative units to APUs.

By the end of 2020, the industry completed 103 projects of the Blue Sky Protection Campaign with a total investment of 2.9 billion yuan, saving over 400 000 tons of aviation fuel, equivalent to a reduction of 1.30 million tons of CO₂ emissions. Various kinds of air pollutants were cut by around 4 800 tons.

2020 saw a steady rise in the use of clean energy at airports, with electricity, natural gas and thermal power accounting for 86.8%, and clean energy such as solar energy and geothermal energy

accounting for 1.0% of the total energy consumption.

In 2020, CAAC worked with the civil aviation administration departments in Hong Kong and Macao to carry out the annual monitoring, reporting and verification of CO₂ emissions from flights to the highest standards.

XI. Legal and Credit System Development

In 2020, 1 administrative law and 9 regulations were drafted, revised, or abolished.

In 2020, there were a total of 326 cases involving administrative punishments; 4 entities and 22 natural persons were included in the CAAC List of Individuals with Serious Discrediting Acts due to their engagement in the serious discreditable acts set out in the Civil Aviation Industry Credit Management Measures (Trial); 4 999 passengers were included in the List of Passengers Restricted from Taking Civil Flights.

XII. The Labor Union

In 2020, 18 high-performing individuals were named “National Pioneer Workers” by CPC Central Committee and the State Council.

In 2020, a total of 722 thousand employees from 33.9 thousand teams in 447 units participated in the industry-wide Safety and Health Cup competition. ■