

DUBAI AIRPORTS

Dubai Airports manages the development and operation of both of Dubai's airports – Dubai International (DXB), the world's number one airport for international passengers, and Dubai World Central (DWC). Dubai Airports was established as a commercial entity in April 2007, following organisational restructuring of the erstwhile Dubai Department of Civil Aviation (DCA).

DXB TRAFFIC 2021

- DXB welcomed 10.6 m pax in H1, down 40.9%. The hub handled 1.1m tonnes of cargo in H1, up 27.7% YoY
- DXB is serving 72% of the destinations in 91% of the countries on 82% of the airlines it did pre-Covid-19. The hub is in the consolidation phase of its business recovery, maintaining gradual but steady growth.
- India was top destination country (1.9m pax) followed by Pakistan (700K) and Russia (400K)
- Top cities: New Delhi (374K), Addis Ababa (354K), Cairo (345K)
- Dubai Airports reopened Terminal 1 and Concourse D on June 24, 2021 almost 15 months after the facilities were closed in March 2020 following the partial suspension of operations at DXB as part of measures to combat the spread of Covid-19.

DXB TRAFFIC 2020

- The COVID-19 pandemic had a major impact on international passenger traffic throughout 2020 due to lockdowns and closure of airports and airlines around the world.
- DXB had ceased all operations from March 25 following directives by UAE authorities as part of national measures to tackle the spread of the virus. UAE residents were allowed return to the country from June 22 while Dubai reopened for international tourists from July 7, 2020.
- Between March and April, Dubai Airports worked with diplomatic missions, airlines and UAE authorities to enable the repatriation of 500,000 people on 4,100 special flights from DXB and DWC.
- DXB welcomed a total of 25.9m passengers for the full year of 2020 (-70%).
- India retained its position as the top destination country for DXB by passenger numbers, with traffic for 2020 reaching 4.3m, followed by the United Kingdom with 1.89 m customers and Pakistan coming in third with 1.86 m customers. Other destination countries of note include Saudi Arabia with 1.45 m customers.
- The top three cities by passenger numbers were London (1.15 m) Mumbai (772,000) and New Delhi with 722,000 passengers.

- DXB handled 183,993 flights (-51.4%) in 2020, while the average number of customers per flight decreased to 188, -20.3% for the year.
- DXB moved 1,932,022 tonnes (-23.2%) of international cargo during 2020.
- As of February 22, 2021, there are now 142 destinations (61% recovery) served from DXB in 80 markets (85% recovery) on 57 airlines (75% recovery).

Dubai International (DXB) Fast Facts

- Airport Perimeter – 7 KM X 2.5 KM
- DXB comprises three terminals
 - Terminal 1 (includes Concourse D) serves all airlines;
 - Terminal 2 serves scheduled, charter, and special flights (pilgrimage);
 - Terminal 3 (includes Concourses A, B & C) is dedicated for use by Emirates airline
- DXB retained its position as world's number 1 international airport for the seventh consecutive year with annual traffic of 25.9 m passengers in 2020 (-70% YoY).
- DXB became the world's number 1 airport for international passengers in 2014 with passenger numbers totalling 70.4 m.
- Total built up area of DXB is 2,122,474sqm [T1+Concourse C (246,474sqm) + T2 (13000 sqm) + T3+Concourse B (1,185,000 sqm) + Concourse A (528,000) + Concourse D (150,000sqm)]
- The 35,000 sqm cargo facility at DXB capable of handling 3.1 m tonnes of cargo annually
- DXB ranks among the world's top 10 cargo hubs in terms of international freight traffic.
- DXB has a total of 526 check in counters
 - T1 - 211
 - Transfers (Concourse D) - 31
 - T2 - 52
 - T3 - 232
- Busiest month – August 2018 with 8.3 m passengers (approx. 280,000 passengers per day; 11,500 passengers per hour; 191.5 passengers per minute)
- The Baggage Handling System is 175KM long. An average bag spends 29 mins in the system.
- The BHS handles up to 9.3m bags/month during peak season (2018). Powered by more than 21,000 motors, the BHS has 15,000 trays and is spread over an area equal to 75 football fields.
- Dubai Duty Free sells an average of 2.9 m bottles of perfume 2,066 tonnes of chocolate, 995 tonnes of dates and 2,711 kilograms of gold every year.
- Dubai Airports opened the \$1.2b Concourse D to serve 60 airlines that operate into Dubai International Terminal 1 on February 24, 2016, taking the airport's annual capacity from 75m passengers to 90m passengers.
- Dubai Airports opened Concourse A, in January 2013, increasing DXB's annual capacity from 60m to 75m passengers.

DXB Chronological History

- **1959** – Work to build ‘Dubai airport’ began on a vast expanse of desert some four kilometres from what was then the edge of the city of Dubai.
- **1960** – The airport comprising a sand compacted runway and a small terminal building was opened on September 30 and was capable of handling aircraft up to the size of a DC-3.
- **1965** – Work to build an asphalt runway began in 1963 and were completed in 1965 together with the building and refurbishment of several facilities.
- **1969** – Dubai International (DXB) was served by nine international airlines to a total of 20 destinations.
- **1970** – The 70s witnessed many developments across DXB, starting with a new three-storey terminal building, a new control tower, additional taxiways, lengthening of the runway, extension of aprons, airfield lighting and landing instrument.
- **1980** – On 23 December 1980, DXB became an ordinary member of the Airports Council International (ACI).
- **1983** – Dubai Duty Free began operations at DXB. From an annual turnover of US\$20 m in its inaugural year, DDF has grown to acquire the status of the world’s single largest airport retailer with a turnover of US\$2.029b in 2019.
- **1984** – The second runway, equipped with the latest meteorological, airfield lighting and instrument landing systems to give the airport a Category II classification, was opened.
- **1985** – Emirates airline is launched. The airline has grown to become the operator of the world’s largest and youngest fleet of wide body aircraft. By 2020 the airline’s total fleet stands at 270 with an average fleet age of 6.8 years.
- **1988** – Passenger throughput at the airport increased to 4.3 m and more than doubled a decade later to 9.7 m by 1998.
- **1998** – Terminal 2 was opened, increasing DXB’s capacity by 2 m passengers per annum.
- **2000** – The opening of Concourse C marked the start of a new chapter in Dubai’s aviation history. Built as part of the first phase of the general expansion project at a cost of \$545 m, the terminal increased the airport’s capacity from 10 m to 23 m.
- **2000** – DXB becomes the first airport in the Middle East to feature a gated terminal with the opening of Concourse C.
- **2002** – DXB was ranked the second fastest growing airport in the world according to Airports Council International (ACI) traffic statistics. The facility handled around 18 m passengers in 2003 and was firmly established as the aviation hub of the Middle East.
- **2007** – Department of Civil Aviation is restructured leading to the formation of Dubai Airports –operator of Dubai’s airports – alongside Dubai Civil Aviation Authority – the local aviation regulatory body.
- **2008** – Dubai Airports opened the much-awaited DXB Terminal 3 for the exclusive use of Emirates airline. The flawless opening of the world’s largest single terminal expanded DXB’s capacity to 60 m and won the airport accolades from passengers and the aviation industry worldwide.

- **2009** – Passenger throughput surpasses the 40 m-mark with traffic reaching 40.9 m and DXB becomes the world’s fastest growing airport among top 50 major hubs. Work begins on Concourse A, the A380 dedicated facility for Emirates’ super jumbo fleet.
- **2009** – Terminal 2 undergoes refurbishment for the launch of flydubai, Dubai’s second airline.
- **2010** – Dubai Airports opens the first phase of DWC for cargo operations on June 27.
- **2013** – Concourse A, the world’s largest facility purpose built for the A380 opens at DXB.
- **2013** – DWC opened its doors to passengers on October 27, 2013. The passenger terminal was expanded in 2018 to accommodate 26m passengers annually, up from 5 m passengers.
- **2014** – DXB welcomes 70.4 m passengers in 2014 to become the world’s number 1 airport for international passenger traffic.
- **2014** – All cargo carriers operations were moved from DXB to DWC.
- **2016** – DXB opens Concourse D, a \$1.2b state of the art facility serving 60 international airlines operating out of DXB’s Terminal 1.
- **2018** – DXB welcomes its one billionth international passenger.
- **2019** – DXB retains title of the world’s busiest airport for international passengers for the sixth consecutive year with 86.4 m passengers.
- **2019** – Dubai Airports completes the installation of 15,000-panel solar array at DXB’s Terminal 2, the largest at any airport in the Middle East.
- **2019** – DXB achieves Level 3 of Airport Council International’s Airport Carbon Accreditation Programme.
- **2020** – Operations at DXB are partially suspended on March 25, 2020 as part of measures by UAE authorities to combat the spread of Covid-19.
- **2020** – DXB becomes one of the first major hubs globally to reopen on July 7, 2020 after partial suspension of operations on March 25 (special flights, repatriation operations and cargo flights continued throughout).
- **2020** – DXB celebrates 60th Anniversary.
- **2021** – DXB retains its position as the world’s busiest international airport for the seventh consecutive year with passenger traffic of 25.9 m in 2020.
- **2021** – DXB achieves Airport Health Accreditation from Airports Council International for its health, public safety and hygiene regime across the airport.
- **2021** – DXB is voted as the world’s best international airport for the first time by readers of the Business Traveller magazine.
- **2021** – Dubai Airports in collaboration with Dubai Health Authority and Pure Health open a 20,000 square-foot lab capable of processing 100,000 PCR tests per day on June 22, 2021. One of the world’s largest in-house lab at an airport, the facility can process PCR tests within four to six hours.

DXB TRAFFIC HISTORY

Pax 2019/18

Quarter	2018	2019	% Change
Q1	22,741,194	22,230,810	-2.2%
Q2	20,997,911	19,046,939	-9.2%
H1	43,739,105	41,277,749	-5.6%
Q3	23,782,331	23,217,492	-4.5%
Q4	21,627,951	21,901,516	1.3%
Total	89,149,387	86,396,757	-3.1%

Cargo 2019/18

Quarter	2018	2019	% Change
Q1	615,853	641,250	4.1%
Q2	652,308	587,567	-9.9%
H1	1,268,161	1,228,817	-3.1%
Q3	676,240	636,575	-5.9%
Q4	708,891	659,167	-7.0%
Total	2,641,383	2,514,918	-4.8%

Note: Dubai International's Southern Runway was closed from April 16 to May 30, 2019 for a major refurbishment.

Top Country Destinations

In 2019, India was the top destination country by traffic volume (11.9 m passengers)
Saudi Arabia (6.3 m); United Kingdom (6.2 m); China (3.6 m); US (3.2 m)

Flights

373,261 (-8.6% YoY)

DXB serves 78 airlines flying to more than 245 airports in 238 cities across 103 countries.

Cargo

2,514,918 tonnes (-4.8% YoY)

Wait Times

Reduced by 15% in 2019 (*Based on comparison of daily passenger wait times at security, immigration and emigration check points during 2018 and 2019.)

Baggage Volume

73.1 m bags with delivery success rate of 99.96%

DXB PASSENGER TRAFFIC 2017/18				DXB CARGO 2017/18			
Month	2017	2018	% change	Month	2017	2018	% change
Jan	8,037,008	7,960,146	-1%	Jan	208,271	202,233	-2.9%
Feb	6,948,157	6,928,547	-0.3%	Feb	192,704	191,575	-0.6%
March	7,511,431	7,852,501	4.5%	Mar	235,503	222,045	-5.7%
April	7,622,946	7,613,155	-0.1	Apr	217,881	216,333	-0.7%
May	6,850,052	6,589,264	-3.8%	May	232,884	221,363	-4.9%
June	6,084,674	6,795,492	11.7%	Jun	215,668	214,612	-0.5%
July	8,065,789	8,207,987	1.8%	Jul	213,258	223,488	4.8%
Aug	8,233,311	8,376,478	1.7%	Aug	224,730*	219,629	-2.3%
Sep	7,215,182	7,197,866	-0.2%	Sep	217,120	221,213	1.9%
Oct	6,865,296	7,007,823	2.1%	Oct	231,805	237,499	2.5%
Nov	6,953,596	6,897,169	-0.8%	Nov	235,651	237,059	0.6%
Dec	7,854,657	7,722,959	-1.7%	Dec	229,068	234,333	2.3%
Total	88,242,099	89,149,387	1.0%	Total	2,654,542	2,641,383	-0.5%

- Flight movements in 2018 totalled 408,251, down -0.3% compared to 409,493 recorded in 2017.
- The average number of passengers per flight in 2018 was 226 up 1.3% from 223 in 2017.

DXB PASSENGER TRAFFIC 2016/17				DXB CARGO 2016/17			
Month	2016	2017	% change	Month	2016	2017	% change
Jan	7,327,637	8,037,008	9.7%	Jan	201,483	208,271	3.4%
Feb	6,383,544	6,948,157	8.8%	Feb	196,460	192,704	-1.9%
March	7,237,509	7,511,431	3.8%	Mar	217,201	235,503	8.4%
April	6,979,063*	7,622,946	9.2%	Apr	213,790	217,881	1.9%
May	6,721,995	6,850,052	1.9%	May	226,916	232,884	2.6%
June	5,857,503	6,084,674	3.9%	Jun	226,174	215,668	-4.6%
July	7,616,792	8,065,789	5.9%	Jul	203,153	213,258	5%
Aug	7,727,105	8,233,311	6.6%	Aug	201,100	224,730*	11.8%
Sep	7,094,738	7,215,182	1.7%	Sep	205,142	217,120	5.8%
Oct	6,420,208	6,865,296	6.9%	Oct	236,169	231,805	-1.8%
Nov	6,581,805	6,953,596	5.6%	Nov	234,743	235,651	0.4%
Dec	7,706,351	7,854,657	1.9%	Dec	230,122	229,019	-0.5%
Total	83,654,250	88,242,099	5.5%	Total	2,592,454	2,654,494	2.4%

*Figures have been restated due to data validation exercise and/or update in methodology.

DXB PASSENGER TRAFFIC 2015/16				DXB CARGO 2015/16			
Month	2015	2016	% change	Month	2015	2016	% change
Jan	6,895,668	7,327,637	6.3%	Jan	186,230	201,483	8.17
Feb	5,973,727	6,383,544	6.9%	Feb	191,587	196,460	2.5%
March	6,736,932	7,237,509	7.4%	Mar	216,879	217,201	0.1%
April	6,510,653	6,978,268	7.2%	Apr	204,075	213,790	4.8%
May	6,267,640	6,721,995	7.2%	May	216,712	226,916	4.7 %
June	5,914,671	5,857,503	(-1%)	Jun	217,896	226,175	3.8%
July	6,682,676	7,616,792	14 %	Jul	205,526	203,153	(-1.2%)
Aug	7,282,256	7,727,105	6.1%	Aug	207,427	201,100	(-3.1%)
Sep	6,432,654	7,094,738	10.3%	Sep	207,315	205,142	(-1%)
Oct	6,250,810	6,420,208	2.7%	Oct	215,714	236,169	9.5%
Nov	6,013,911	6,581,805	9.4%	Nov	218,323	234,743	7.5%
Dec	7,053,243	7,706,351	9.3%	Dec	218,408	230,122	5.4%
Total	78,014,838	83,654,250	7.2%	Total	2,506,092	2,592,454	3.4%

DXB PASSENGER TRAFFIC 2014/15				DXB CARGO 2014/15			
Month	2014	2015	% change	Month	2014	2015	% change
Jan	6,400,706	6,895,668	7.7%	Jan	197,021	186,230	(-5.5%)
Feb	5,675,246	5,973,727	5.3%	Feb	188,702	191,002	1.2%
March	6,285,868	6,736,932	7.2%	Mar	228,154	216,879	(-4.9%)
April	6,159,634	6,510,653	5.7%	Apr	211,588*	204,075	(-3.6%)
May	5,086,910	6,267,640	23.2%	May	187,688*	216,712	15.5%
June	5,067,726	5,914,671	16.7%	Jun	185,842	217,896	17.2%
July	5,155,771	6,682,676	29.6% ⁷¹	Jul	190,376	205,526	8.0%
Aug	6,648,058	7,282,256	9.5%	Aug	196,986*	207,427	5.3%
Sep	5,942,628	6,432,654	8.2%	Sep	206,643	207,315	0.3%
Oct	5,989,007	6,250,810	4.4%	Oct	200,435	215,714	7.6%
Nov	5,565,509	6,013,911	8.1%	Nov	210,251	218,323	3.8%
Dec	6,498,573	70,532,433	8.5	Dec	207,618	218,408	5.2%
YTD	70,473,893	78,014,838	10.70%	Total	2,423,677	2,506,092	3.40%

(*Cargo volume for 2014 has been re-stated because of data validation exercise.)

DXB PASSENGER TRAFFIC 2013/14				DXB CARGO 2013/14			
Month	2013	2014	% change	Month	2013	2014	% change
Jan	5,559,760	6,400,706	15.1%	Jan	188,520	197,021	4.5%
Feb	5,080,360	5,675,246	11.7%	Feb	182,580	188,702	3.4%
March	5,846,297	6,285,868	7.5%	Mar	213,748	228,154	6.7%
April	5,418,946	6,159,634	13.7%	Apr	199,985	207,317	3.7%
May	5,218,832	5,086,910	(-2.5%)	May	209,985	182,028	(-13.3%)
June	5,537,908	5,067,726	(-8.5%)	Jun	210,134*	180,025	(-14.3%)
July	5,310,361	5,155,771	(-2.9%)	Jul	206,945*	184,720	(-10.7%)
Aug	5,999,375	6,648,058	10.8%	Aug	184,877	192,902	4.3%

Sep	5,407,326	5,942,628	9.9%	Sep	196,823	202,415	2.8%
Oct	5,667,698	5,989,007	5.7%	Oct	208,695	195,824	(-6.2%)
Nov	5,337,544	5,565,509	4.3%	Nov	223,195	205,375	(-8%)
Dec	6,047,126	6,498,573	7.5%	Dec	218,138	202,836	(-7%)
Total	66,431,533	70,475,636	6.1%	Total	2,443,624	2,367,574	(-3.1%)

*Previously shared cargo figures for 2013 did not include mail and courier. This has now been corrected and will require updating the percentage growth figures.

DXB PASSENGER TRAFFIC 2012/13				DXB CARGO 2012/13			
Month	2012	2013	% change	Month	2012	2013	% change
Jan	4,852,139	5,559,760	14.6%	Jan	173,531	188,520	8.6%
Feb	4,561,147	5,080,360	11.4%	Feb	157,492	182,580	15.9%
March	4,848,320	5,846,297	20.6%	Mar	186,417	213,748	14.7%
April	4,566,673	5,418,946	18.7%	Apr	186,385	199,985	7.3%
May	4,388,614	5,218,832	18.9%	May	187,638	209,985	11.9%
June	4,714,746	5,537,908	17.5%	Jun	194,992	202,077	3.6%
July	5,006,155	5,310,361	6.1%	Jul	204,510	206,950	1.2%
Aug	4,847,152	5,999,375	23.8%	Aug	190,770	184,877	-3.1%
Sep	4,780,394	5,407,326	13.1%	Sep	193,261	196,823	1.8%
Oct	4,923,246	5,667,698	15.1%	Oct	202,619	208,695	3.0%
Nov	4,875,003	5,337,544	9.5%	Nov	200,060	223,195	11.6%
Dec	5,320,961	6,047,126	1360.0%	Dec	201,949	218,138	8.0%
Total	57,684,550	66,431,533	15.2%	Total	2,279,624	2,435,567	6.8%

DXB PASSENGER TRAFFIC 2011/12				DXB CARGO 2011/12			
Month	2011	2012	% change	Month	2011	2012	% change
Jan	4,254,735	4,852,139	14.0%	Jan	178,199	173,531	-2.6%
Feb	3,831,385	4,561,147	19.0%	Feb	147,937	157,492	6.5%
March	4,201,708	4,848,320	15.4%	Mar	185,921	186,417	0.3%
April	4,237,548	4,566,673	7.8%	Apr	179,397	186,385	3.9%
May	3,976,633	4,388,614	10.4%	May	187,905	187,638	0.1%
June	4,065,809	4,714,746	16.0%	Jun	183,365	194,992	6.3%
July	4,724,109	5,006,155	6.0%	Jul	192,538	204,510	6.2%
Aug	4,019,230	4,847,152	20.0%	Aug	182,782	190,770	4.4%
Sep	4,236,587	4,780,394	12.8%	Sep	177,128	193,261	9.1%
Oct	4,307,817	4,923,246	14.3%	Oct	197,841	202,619	2.4%
Nov	4,431,673	4,875,003	10.0%	Nov	191,658	200,060	4.4%
Dec	4,690,726	5,320,961	13.4%	Dec	189,593	201,949	6.5%
Total	50,977,960	57,684,550	13.20%	Total	2,194,264	2,279,624	3.9%

Dubai World Central (DWC)

Dubai's second airport opened its doors to passengers on October 27, 2013 with Wizz Air as the launch airline. Kuwait-based Jazeera Airways launched services from October 31st while Gulf Air commenced flights from December 8, 2013.

DWC welcomed the launch of flydubai's operations with the arrival of their first flight on October 25, 2015. The airline will operate services to several destinations from DWC as it continues its operations from Dubai International.

Dubai Airports launched cargo operations at DWC on June 27, 2010 as part of the first phase of the project. By May 2014 all cargo operators were moved from DXB to DWC making it the main cargo hub. DWC is also home to 20 cargo operators that fly to as many as 43 cities around the world.

Expansion

Dubai Airports announced in 2015 a project to expand existing passenger terminal at DWC to accommodate 26 m passengers per annum by 2018.

The expanded facility opened in 2018 after the successful completion of a thorough testing and trial programme. The expanded facility opened in time to offer alternate capacity for airlines during the closure of one of Dubai International's two runway for refurbishment from April 16 to May 30th, 2019.

The expanded passenger terminal provides a total of 24 boarding gates, a brand new 6,000 bags per hour baggage handling system, 7 baggage reclaim carousels and 104 check-in desks.

DWC Expansion Quick Facts

- Capacity – 26.5 m (vs current capacity at AUH – 20m, STN – 20m, IST – 30m)
- Baggage carousels - 7 (up from 4)
- Arrivals immigration counters – 40 (up from 16)
- Arrivals smart gates – 5 (up from 4 but space for 20)
- Check-in desks – 90 + 4 OOG (up from 40 + 2 OOG)
- Business class check-in – 10 (new)
- Total check-in – 104 (up from 42)
- Departure boarding gates – 24 (up from 12)
- Baggage system – 80 chutes, 8 transfers, 4000 EBS, 6000 bags per hour (up from 4 make-up carousels, 1 transfer line 0 EBS)
- Hammerhead – new facility, 12 boarding gates, Business class lounge/boarding
- Parking – 2,542 (up from 759)
- Area of PTB – 144,000 sqm
- Remote a/c stands – 98 – largest in the world (up from 69)
- Expanded taxi/limo staging area and pick up/drop off

Passenger Traffic

Quarter	2018	2019	Change
Q1	334,455	326,680	-2.3%
Q2	183,358	921,826	402.7%
Q3	119,363	21,926	-81.6%
Q4	263,026	363,626	38.2%
Annual	900,202	1,634,058	81.5%

- DWC welcomed 1.6 m passengers in 2019, up 81.5%, mainly resulting from the relocation of operations by a number of airlines during the 45-day closure of one of DXB's two runways for rehabilitation in April-May 2019. 36,949 flights took off or landed at DWC in 2019 (23.3% YoY).

Cargo Volume

Quarter	2018	2019	Change
Q1	229,831	215,763	-6.1%
Q2	245,359	234,238	-4.3%
H1	475,190	450,000	-5.3%
Q3	254,421	226,830	-10.8%
Annual	987,986	911,571	-7.7%

DWC moved a total of 911,571 tonnes of freight in 2019, a year on year decline of -7.7%.

- DWC is served by 6 passenger airlines operating an average of 30 weekly flights to 45 international destinations. It is also home to 17 cargo operators that fly to as many as 45 cities around the world.

2018

- Passenger traffic at DWC totalled 900,202 passengers in 2018, down 0.5% compared to 2017.
- DWC handled 987,986 tonnes of cargo in 2018 a year on year increase of 1.6% compared to 972,295 tonnes recorded during the same period in 2017.
- There were 29,959 flight movements at DWC in 2018, down 12.4% as compared to 2017.

2017

- DWC welcomed 904,940 passengers in 2017, up 6.4% compared to 850,633 passengers recorded in 2016.
- Aircraft movements at DWC totalled 34,198, down 11.6% over the 29,380* movements recorded in 2016.
- DWC handled 972,295 tonnes of freight in 2017, up 8.3% compared to 897,998 tonnes recorded during 2016.
- DWC is home to 23 scheduled cargo operators that fly to as many as 68 destinations around the world.
- Dubai Airports launched General Aviation operations at DWC on February 28, 2011 with Al Futtaim Services Company as the launch customer.

-Ends-