







AVIATION DATA AND ANALYSIS SEMINAR

08-12 July 2019

ISTANBUL

GLOBAL AIR TRANSPORT OPTIMIZER Drive tangible impacts, identify aviation trends, spot commercial

Alper AKBAŞ
Analytica Advisory Group
alper.akbas@analyticaadvisory.com

strategies.

opportunities and threats, run high impact reports to sharpen your







Your gateway to ICAO's Civil Aviation Intelligence.

PIONFERING PRODUCTS

1 ICAO AERO TARIFFS

2 TRAFFIC FORECASTS

3 ICAO NEW DATA PLUS

4 AIR SERVICE AGREEMENTS (WASA)

5 GLOBAL AIR TRANSPORT OPTIMISATION - GATO







APPLICATIONS



DOCUMENTS



RESEARCH

+1,000 Products
ALL IN ONE BUNDLE



GLOBAL AIR TRANSPORT OPTIMIZER



212

Countries

9,980

Scheduled Airports

1,174

Airlines (Legacy & LC Carriers)

99%

of Global Scheduled Traffic



COMPREHENSIVE, ACCURATE, RELIABLE & AFFORDABLE UNIQUE DATA SOURCE, UNIQUE EXPERTISE, ASSISTED BY MACHINE LEARNING ALGORITHMS





A COMPREHENSIVE MARKET INTELLIGENCE TOOL FOR STRATEGIC DECISION-MAKING WITH DATA-DRIVEN CLARITY: COMPOSITION OF ICAO EXPERTISE, ICAO DATA FORMS, AND LEADING DATA SOURCES IN THE INDUSTRY

Run by ICAO, thus reliable, accurate and affordable.

ALL IN 1 SOLUTION WITH 6 EXCLUSIVE MODULES



A SINGLE SEARCHABLE DATABASE WITH ALL THE INFORMATION YOU NEED TO TAKE ACTION

Analyze air passenger traffic flows in all markets by airlines. Understand where air passenger traffic originates, connects and ends. With three exclusive sub-

AIRLINE ANALYSIS

modules.

- View the air transport profile of any country with the most accurate and up-to-date data. Monitor domestic, international, connecting and non-stop traffic of the selected country. View the origin, destination traffics and transfer traffic
- OS

 CONNECT MARKETS FOR COUNTRY PAIRS

 Monitor air freedom (connect market) reports for country pairs, market shares by airlines with the most accurate and up-to-date data feeds. View pax and RPK by freedoms or airlines for the chosen country pairs.

- AIRPORT ANALYSIS
- Understand the traffic flows, market shares and transfer traffic of any airport. View KPI's of the airports. View all breakdowns of traffic from any airport. View the breakdowns of traffic where the chosen airport is the transfer airport.
- PAGE 104 ROUTE ANALYSIS

 Monitor traffic statistics between airports pairs. View Total Traffic, Non-Stop and Connecting traffic by routes; the

CONNECT MARKETS FOR AIRPORT PAIRS

Monitor air freedom (connect market) reports for air

Monitor air freedom (connect market) reports for airport pairs, market shares by airlines with the most accurate and up-to-date data feeds. View pax and RPK by freedoms or airlines for the chosen airport pairs.

traffic breakdowns for Non-Stop and Connecting Traffic;

the market shares by carriers and connecting airports.

VERY SOON..



<u>†</u>....







AIRLINE ANALYSIS

Segment traffic including passenger, seats, and load factors by airline and evolution of traffic over time.

AIRPORT ANALYSIS

Detailed breakdown of outbound traffic in different connectivity scenarios by origin and connecting airports.

COUNTRY ANALYSIS

Detailed breakdown of outbound traffic in different connectivity scenarios by origin and connecting countries and airports.

ROUTE ANALYSIS

Non-stop and connecting traffic for selected route and market share of airlines offering non-stop service.

AIR FREEDOMS

Market share of airlines for selected country or airport pair. The unique feature of this module is the ability to view market share by freedoms of air.

COMING SOON

ROUTE PROFITABILITY

Estimated cash profit of all airlines for selected route.

SCENARIO ANALYSIS

Unique premium module allowing the user to access the shifts in cash profitability under different frequency share scenarios.





Segment traffic including passenger, seats, and load factors by airline and evolution of traffic over time.

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COMING SOON

ROUTE PROFITABILITY

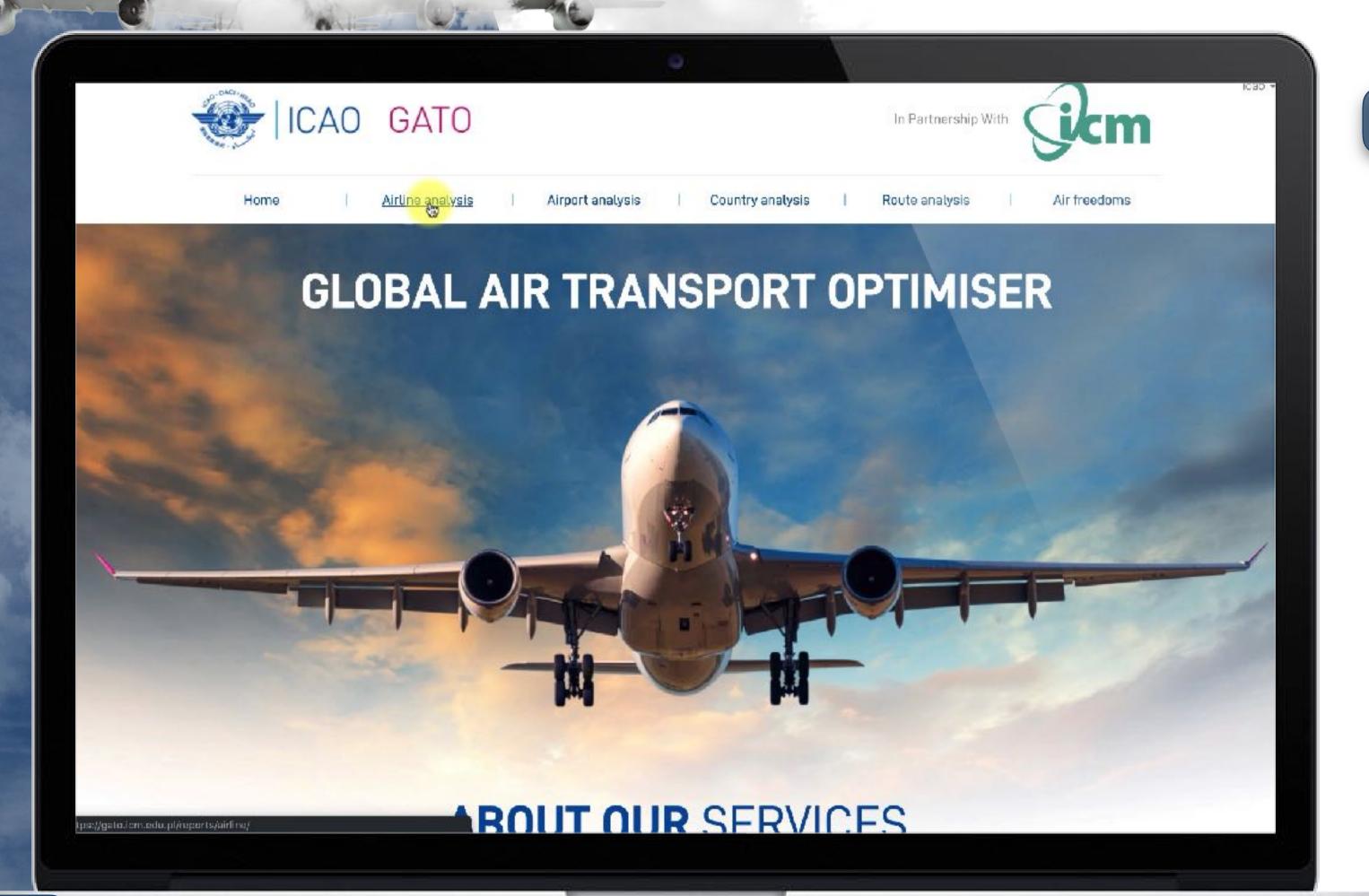
Estimated cash profit of all airlines for selected route.

SCENARIO ANALYSIS

Unique premium module allowing the user to access the shifts in cash profitability under different frequency share scenarios.



AIRLINE ANALYSIS MODULE



ALL THE AIRLINES YOU LOOK FOR

Analyze air passenger traffic flows in all markets by airlines. Understand where air passenger traffic originates, connects and ends.

Observe the trends of any airline by origin and destinations by using three modules:

- Statistics,
- Map,
- Evolution Over Time

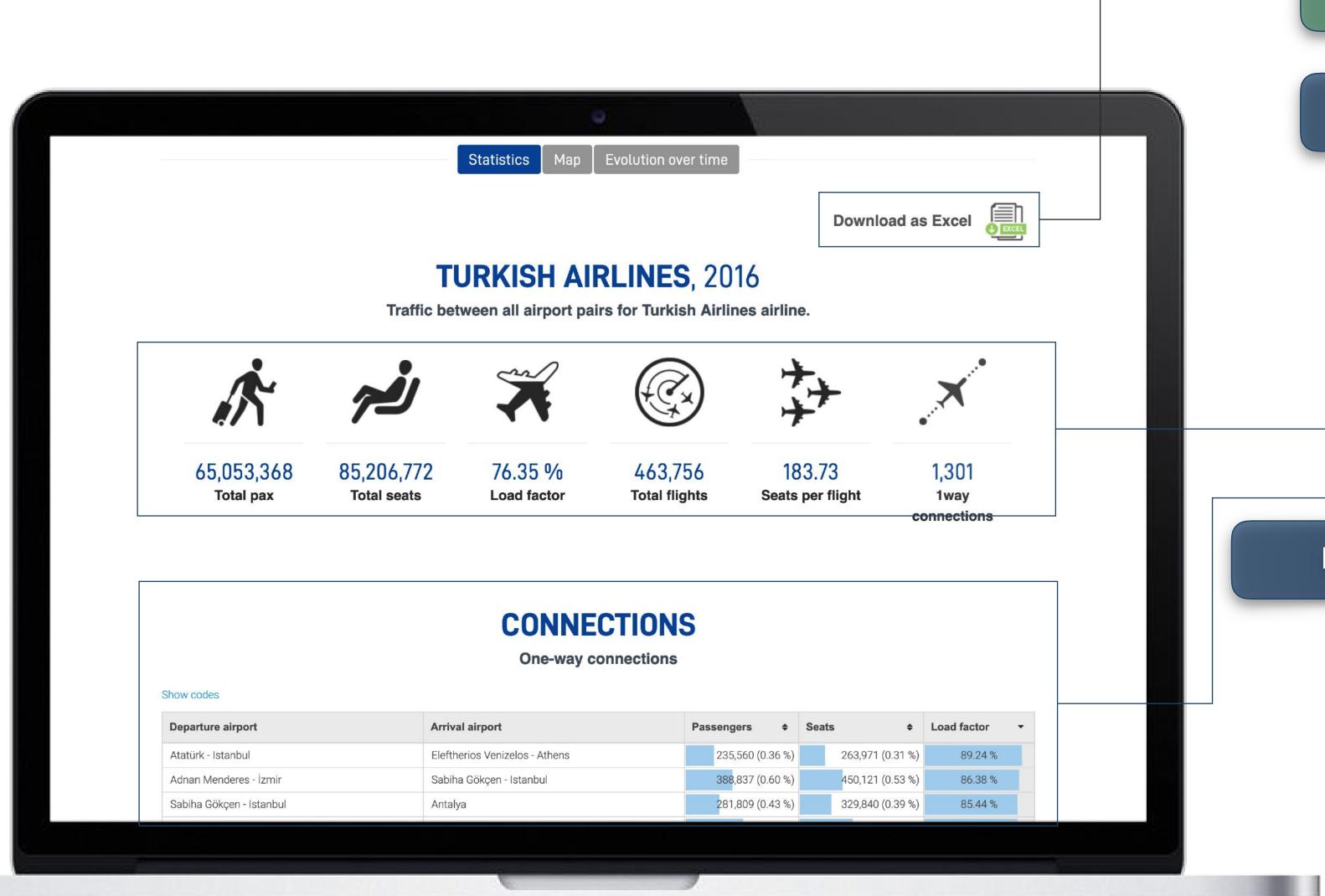
Years included: 2011-2018



AIRLINE ANALYSIS MODULE

I. "STATISTICS" Sub-Module





"XLSX" FORMAT REPORT OUTPUT

SUMMARY BOX WITH KEY KPI's

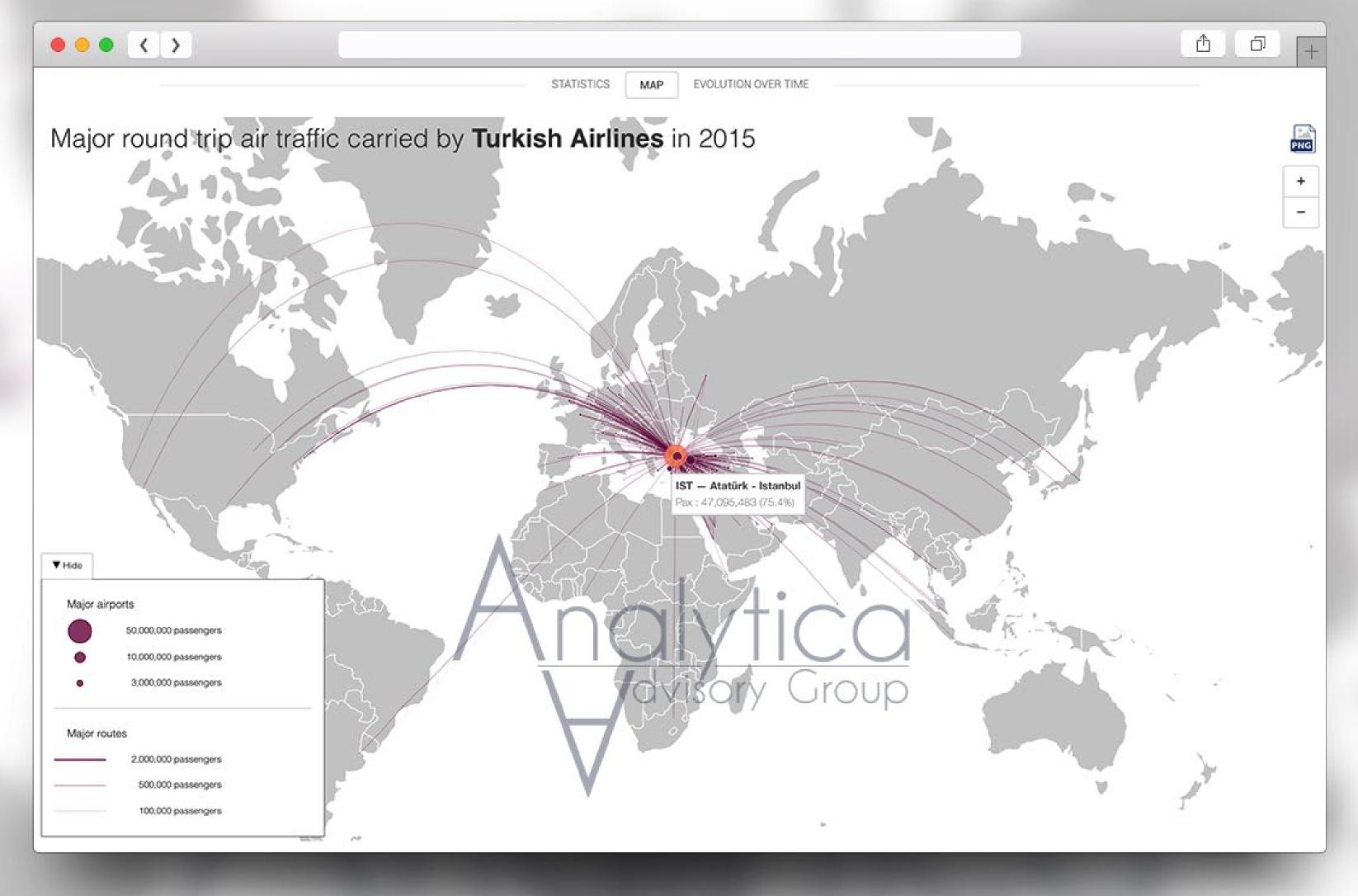
- Total Pax
- Total Seats
- Load Factor
- Total Flights
- Seats per Flight
- Number of 1 Way Connections

LIST & COMPARE ALL 1 WAY CONNECTIONS

- Destination and Arrival Airports by codes / names
- Number of Passengers
- Seats
- Load Factor
- Order the routes by KPI's.

LEVERAGE THE POWER

OF YOUR PRESENTATIONS & ANALYSIS







HD PNG FORMAT OUTPUTS

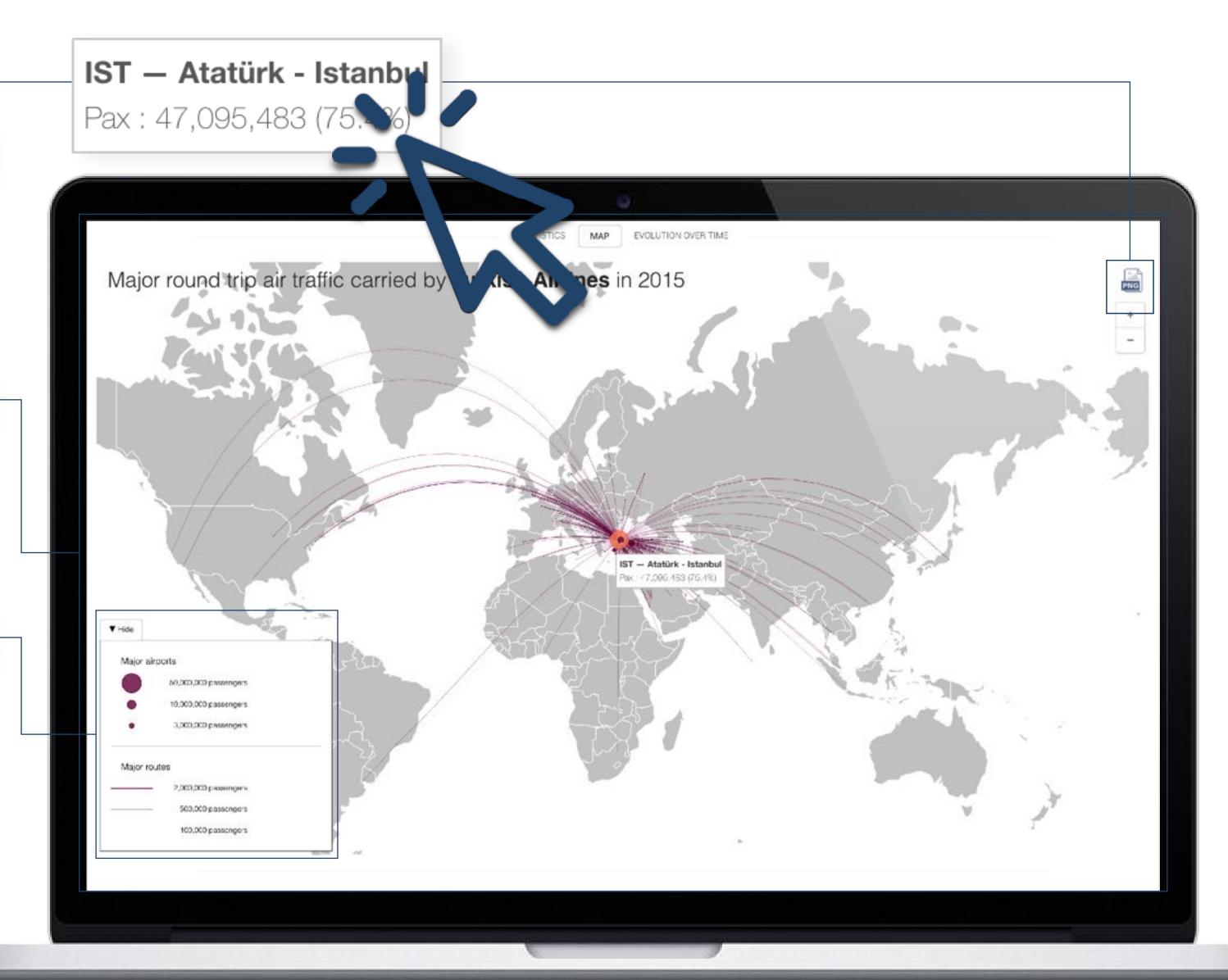
• Leverage the power of your presentations with hd vector maps for any airline's routes in a specific year

VECTOR MAPS ILLUSTRATING ROUTES

More insightful analysis with map views

INDEPTH LEGENDS AND TOOLTIPS

View the routes weighted by passenger volumes







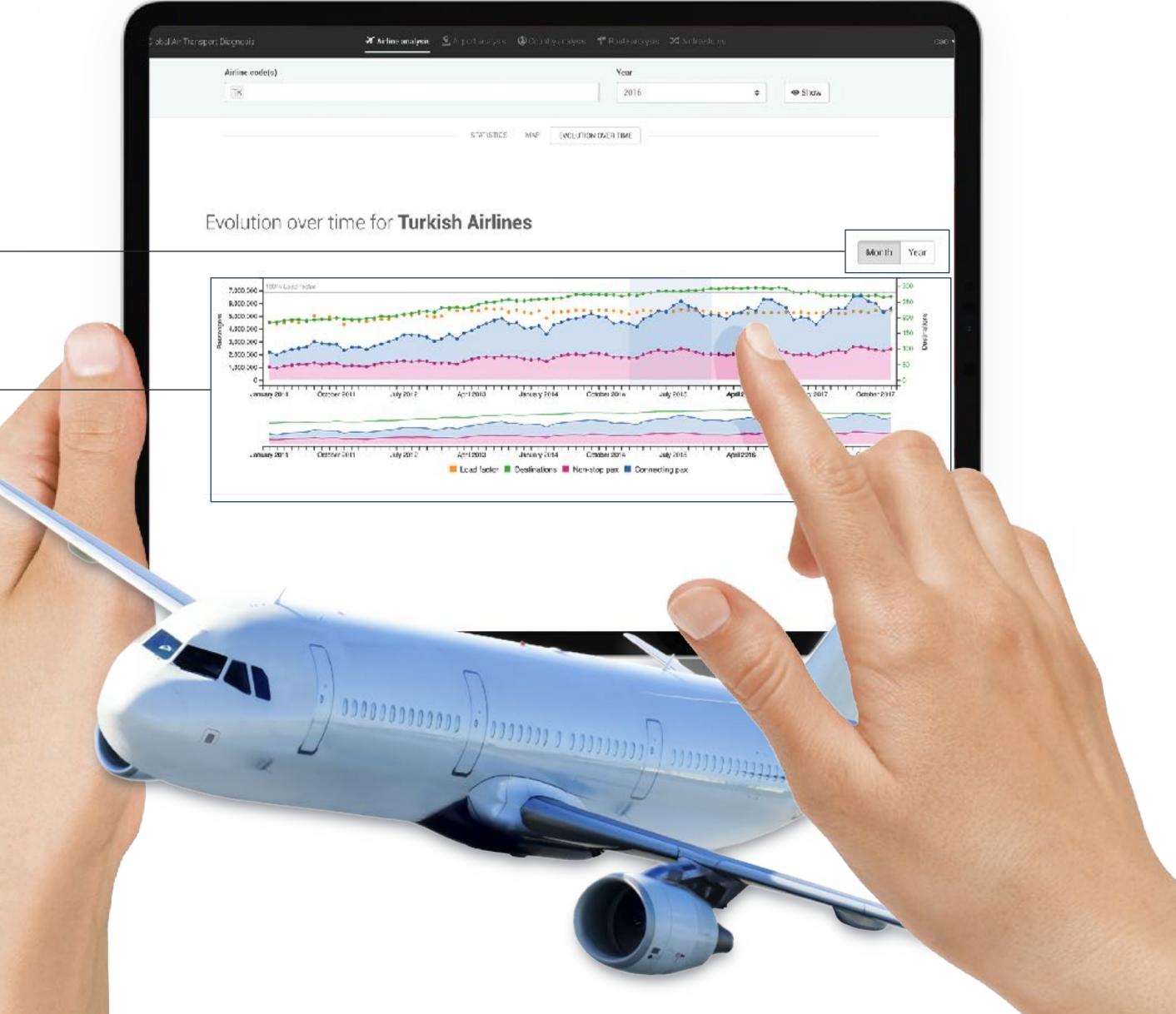
MONTHLY & ANNUAL BREAKDOWNS

- Monitor the trends over time for any airlines including legacy carriers and llc's.
- View & compare the annual or monthly trends.

MONTHLY & ANNUAL BREAKDOWNS

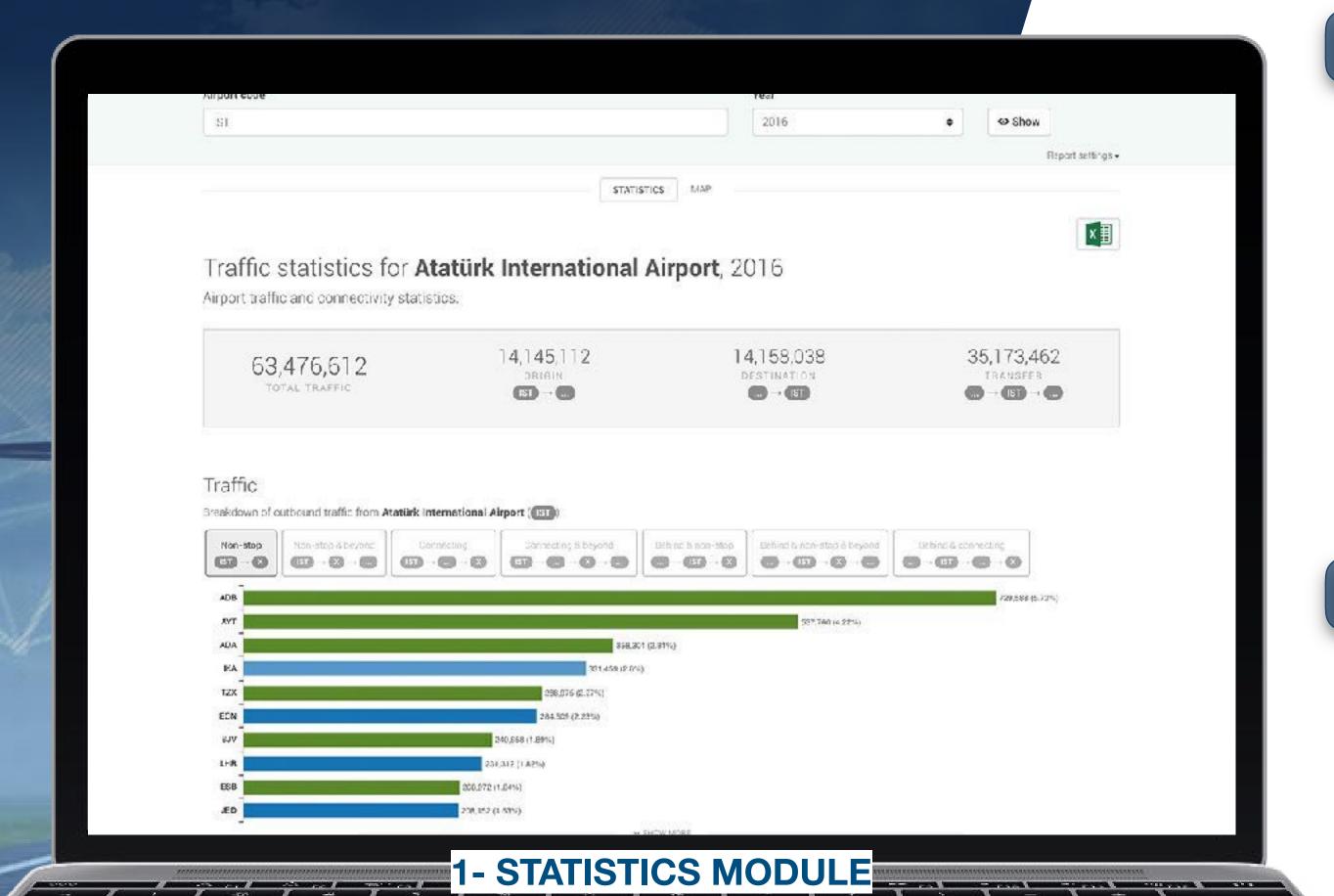
• Fully dynamic chart illustrating "Load Factor", "Destinations", "Non-Stop Pax" and "Connecting Pax" monthly or annually for any selected airline.

	Certember 2014	Pare .
	1 load factor	79.64%
2	Destinations	273
	Non-stop pax	2,058,612
	Connecting pax	2,876,30









ALL THE AIRPORTS YOU LOOK FOR

Understand the traffic flows, market shares and transfer traffic of any airport. View KPI's of the airports.

View all breakdowns of traffic from any airport. View the breakdowns of traffic where the chosen airport is the transfer airport.

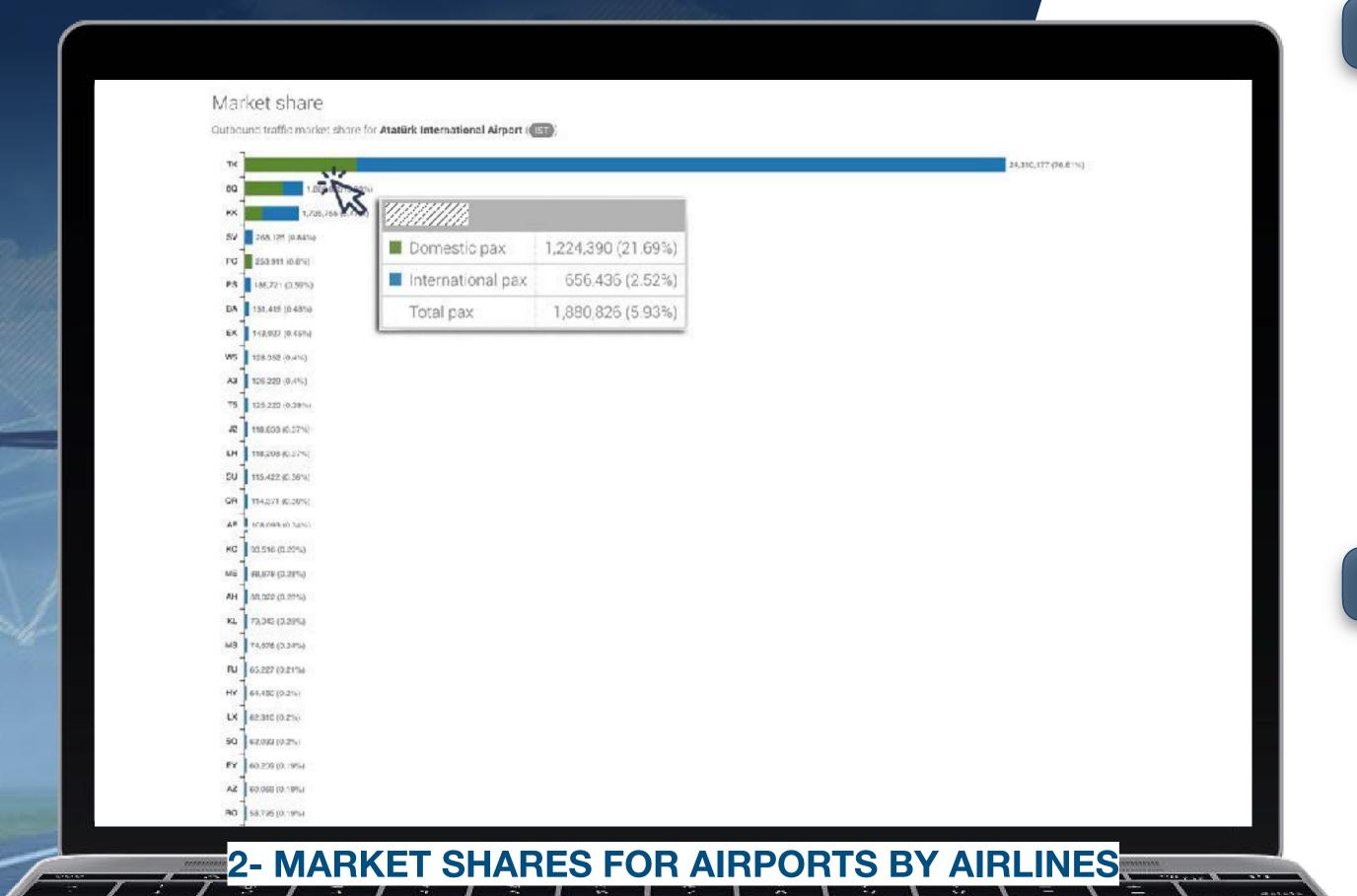
Use the vector map module to get more insights about the traffic flows by all possible breakdowns.

WITH ALL BREAKDOWNS OF TRAFFIC

Use two sub-modules ("Statistics" & "Maps") to get more insights on traffic flows

1.STATISTICS MODULE





ALL THE AIRPORTS YOU LOOK FOR

Understand the traffic flows, market shares and transfer traffic of any airport. View KPI's of the airports.

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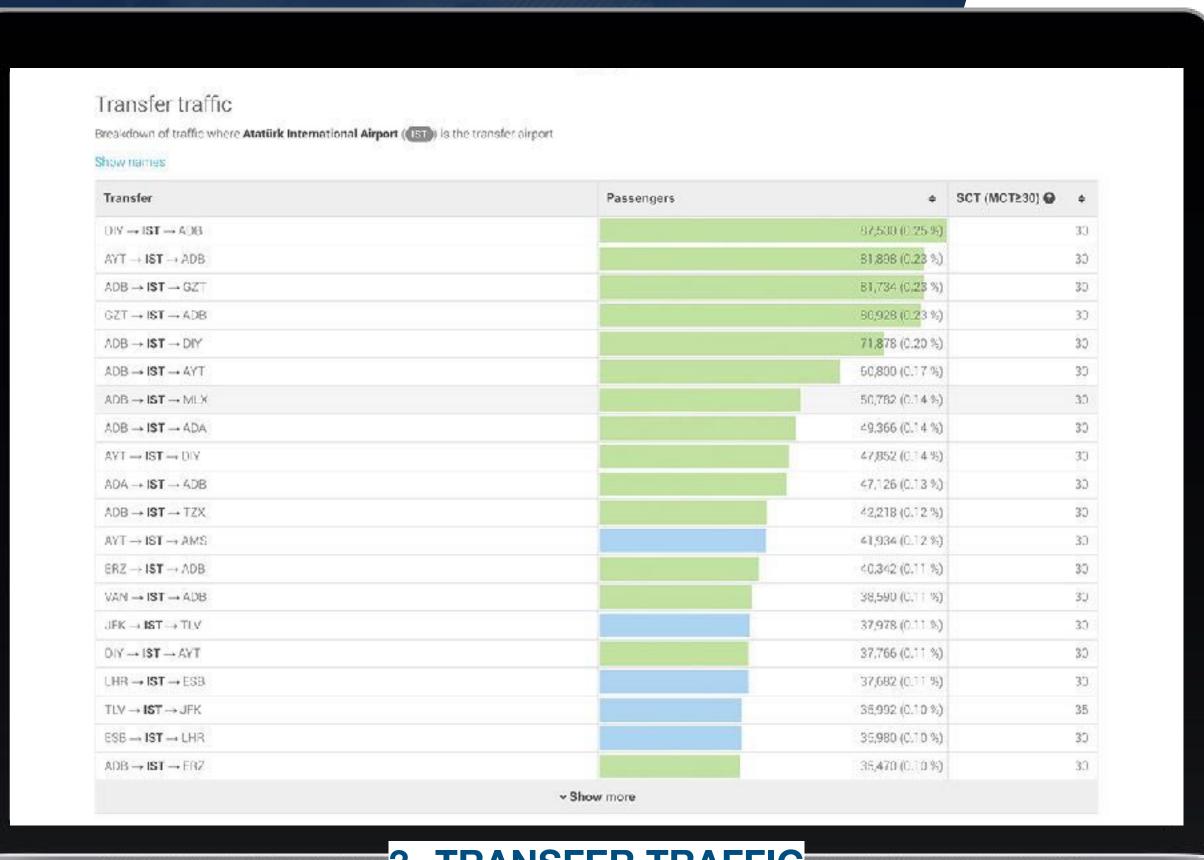
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WITH ALL BREAKDOWNS OF TRAFFIC

Use two sub-modules ("Statistics" & "Maps") to get more insights on traffic flows

1.STATISTICS MODULE
2.MARKET SHARES FOR AIRPORTS BY AIRLINES





ALL THE AIRPORTS YOU LOOK FOR

Understand the traffic flows, market shares and transfer traffic of any airport. View KPI's of the airports.

View all breakdowns of traffic from any airport. View the breakdowns of traffic where the chosen airport is the transfer airport.

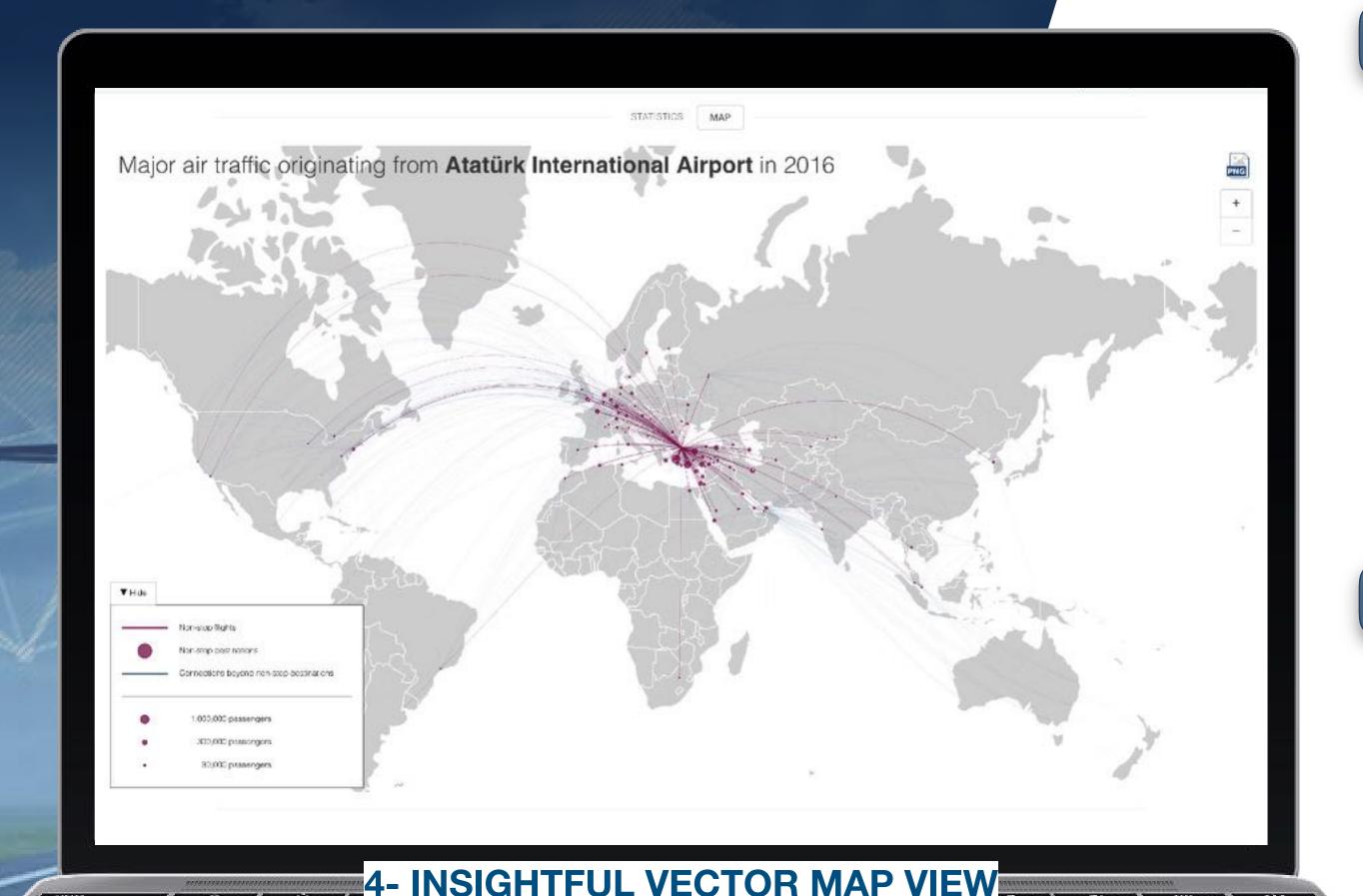
Use the vector map module to get more insights about the traffic flows by all possible breakdowns.

WITH ALL BREAKDOWNS OF TRAFFIC

Use two sub-modules ("Statistics" & "Maps") to get more insights on traffic flows

- 1.STATISTICS MODULE
- 2.MARKET SHARES FOR AIRPORTS BY AIRLINES
- **3.TRANSFER TRAFFIC**





ALL THE AIRPORTS YOU LOOK FOR

Understand the traffic flows, market shares and transfer traffic of any airport. View KPI's of the airports.

View all breakdowns of traffic from any airport. View the breakdowns of traffic where the chosen airport is the transfer airport.

Use the vector map module to get more insights about the traffic flows by all possible breakdowns.

WITH ALL BREAKDOWNS OF TRAFFIC

Use two sub-modules ("Statistics" & "Maps") to get more insights on traffic flows

- 1.STATISTICS MODULE
- 2.MARKET SHARES FOR AIRPORTS BY AIRLINES
- **3.TRANSFER TRAFFIC**
- **4.INSIGHTFUL VECTOR MAP VIEW**





AIRPORT ANALYSIS MODULE

I. "STATISTICS" Sub-Module | Closer Look







"XLSX" FORMAT REPORT DOWNLOAD

SUMMARY BOX WITH KEY KPI's

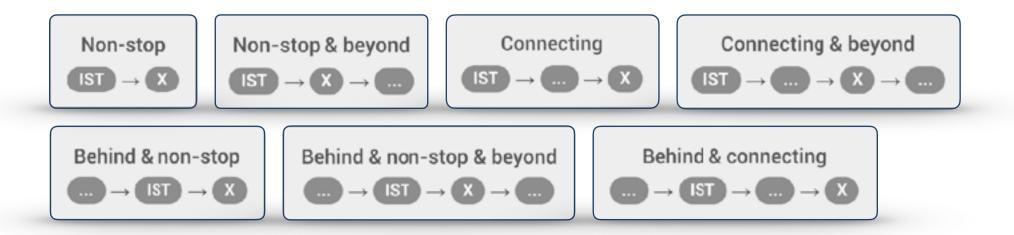
- Airport traffic and connectivity statistics.
- Total Traffic by PAX
- Origin Traffic by PAX
- Destination Traffic by PAX

THREE INSIGHTFUL DYNAMIC BAR CHARTS

- A. Traffic Table
 - Breakdown of outbound traffic from the selected airport
- B. Market Share Table
 - Outbound traffic market share for the selected airport
- C. Transfer Traffic Table
 - Breakdown of traffic where the selected airport is the transfer airport



MONITOR THE BREAKDOWN OF OUTBOUND TRAFFIC FROM **ANY AIRPORT IN ALL SEGMENTS**



- Monitor all the breakdowns of outbound traffic as illustrated above for IST
- View domestic and international traffic

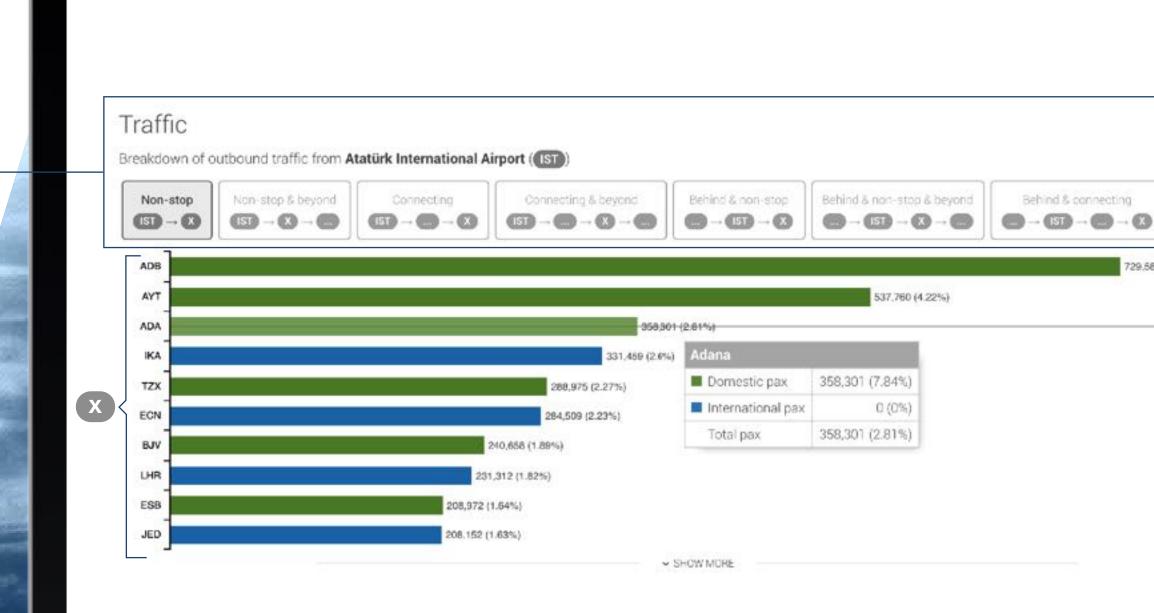
 By clicking the corresponding bars, compare the breakdowns for multiple destination airports

- Use tooltips for more insights
- Download "xlsx" for

		International pax	0 (0%
ormat reports to	r further analysis	Total pax	358,301 (2.81%)
		Antalya	
		Domestic pa	x: 537,760 50.09% •
Antalya		Inter	national pax: 0 0%.
and the second second	ational bittle: Luncapus at the American as a perchapt sone	Total pa	x: 537,760 50.09% •
Domestic pax	537,760 (11.76%)	Imam Khomeini - Tehra	in
International pax	0.40%	Don	nestic pax: 0 -lnf%▼
international pax	0 (0 %)	International	pax: 331,459 Inf% -
Total pax	537,760 (4.22%)	Total pa	ix: 331,459 -7.49% ▼
			13.00

358,301 (7.84%



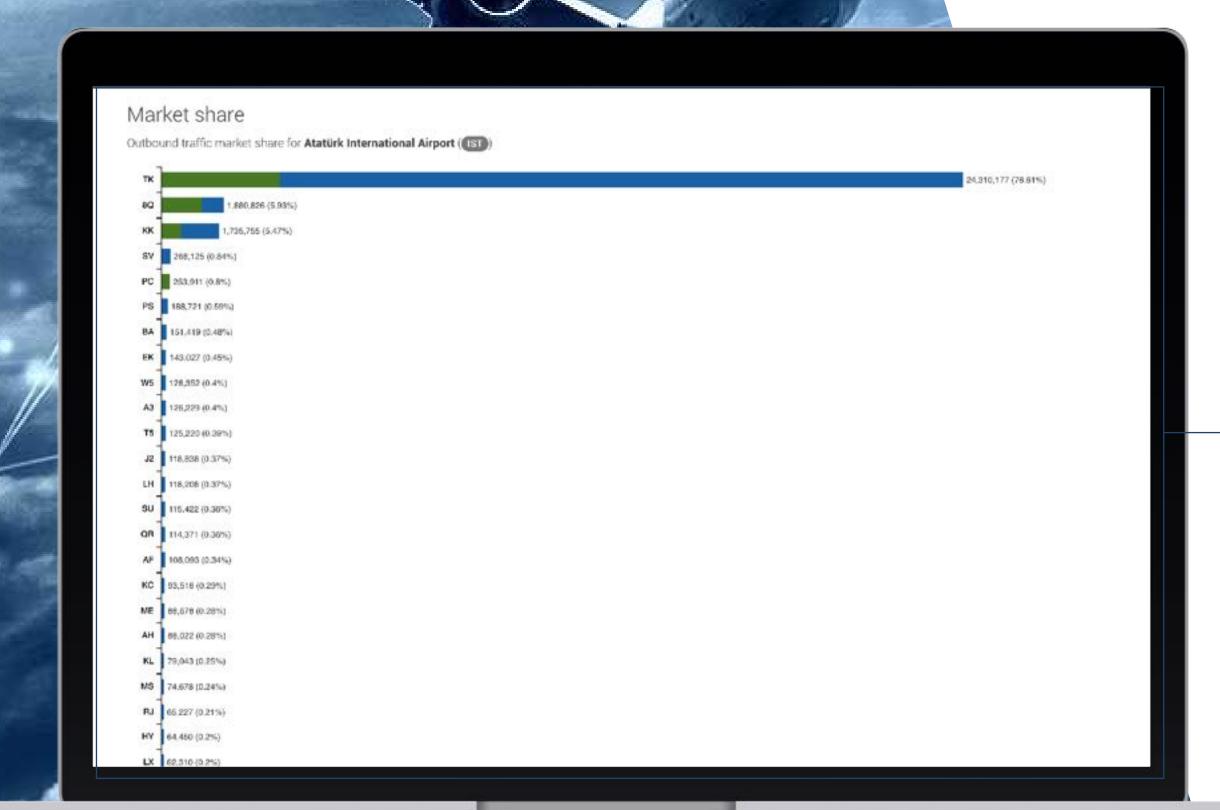




B. MARKET SHARE



AIRPORT ANALYSIS MODULE 1.B. "STATISTICS" Market Share Table



MONITOR & COMPARE MARKET SHARES BY AIRLINES FOR THE OUTBOUND TRAFFIC FROM ANY AIRPORT SELECTED

- Monitor the market shares by PAX volumes
- View all the airlines running flights from the selected airport
- By clicking the corresponding bars, compare the shares in the tooltips
- Use tooltips for more insights
- Download "xlsx" format reports for further analysis

Turkish Airlines	
■ Domestic pax	3,577,727 (63.38%)
■ International pax	20,732,450 (79.47%)
Total pax	24,310,177 (76.61%)

Onur Air	
■ Domestic pax	1,224,390 (21.69%)
■ International pax	656,436 (2.52%)
Total pax	1,880,826 (5.93%)
Turkish Airlines	
International pax: 20, Total pax: 24, AtlasGlobal	732,450 3058.34% ~ 310,177 1192.53% *
Total pax: 24, AtlasGlobal	
Total pax: 24, AtlasGlobal Domestic pa	310,177 1192.53% 🔺

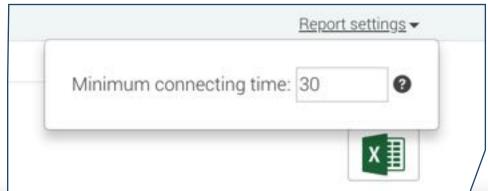


MONITOR THE BREAKDOWN OF TRAFFIC WHERE THE SELECTED AIRPORT IS THE TRANSFER AIRPORT

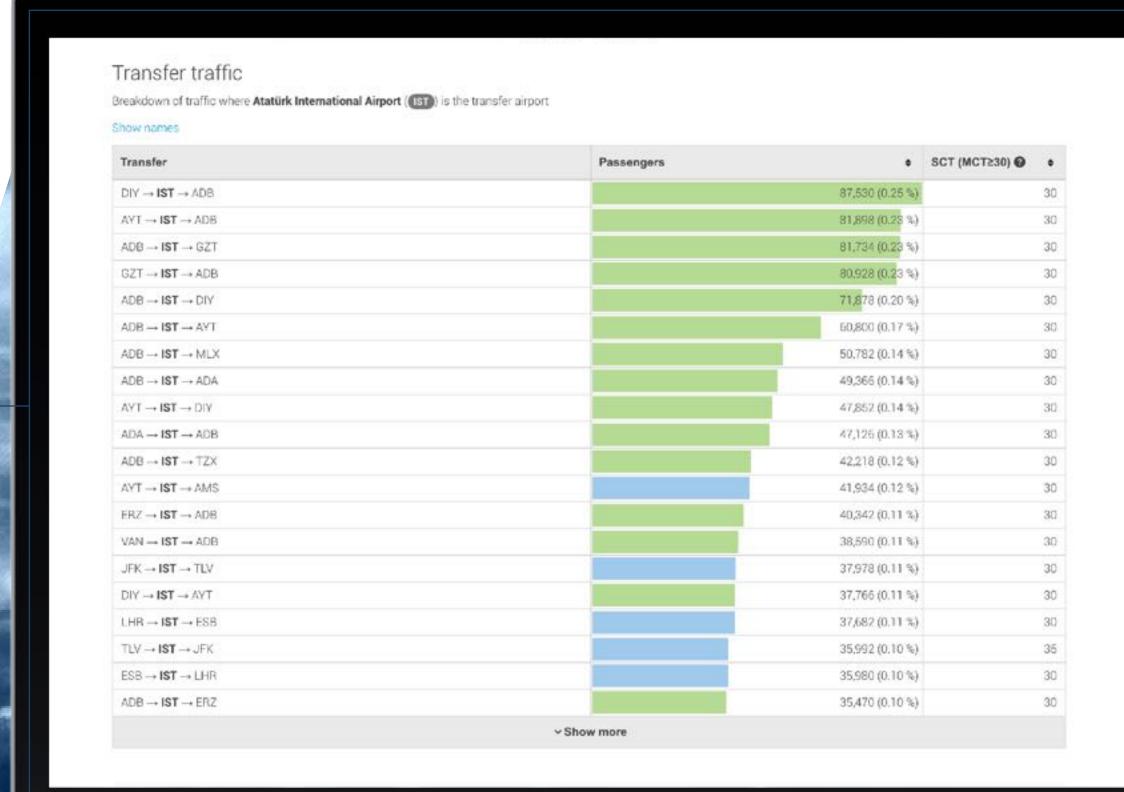
- Monitor the breakdowns of transfer traffic as routes
- View domestic and international traffic
- View / Sort by the passenger volumes
- Download "xlsx" format reports for further analysis

SPECIFY THE SHORTEST CONNECTING TIME TO MONITOR THE CORRECT TRANSFER TRAFFIC YOU DESIRE

- Adjust the desired SCT (MNT) in order to view the required routes for the transfer traffic
- SCT (MCT): The shortest connecting time (for a given route) that is greater or equal to the minimum connecting time which can be set in the report properties.



C. TRANSFER TRAFFIC

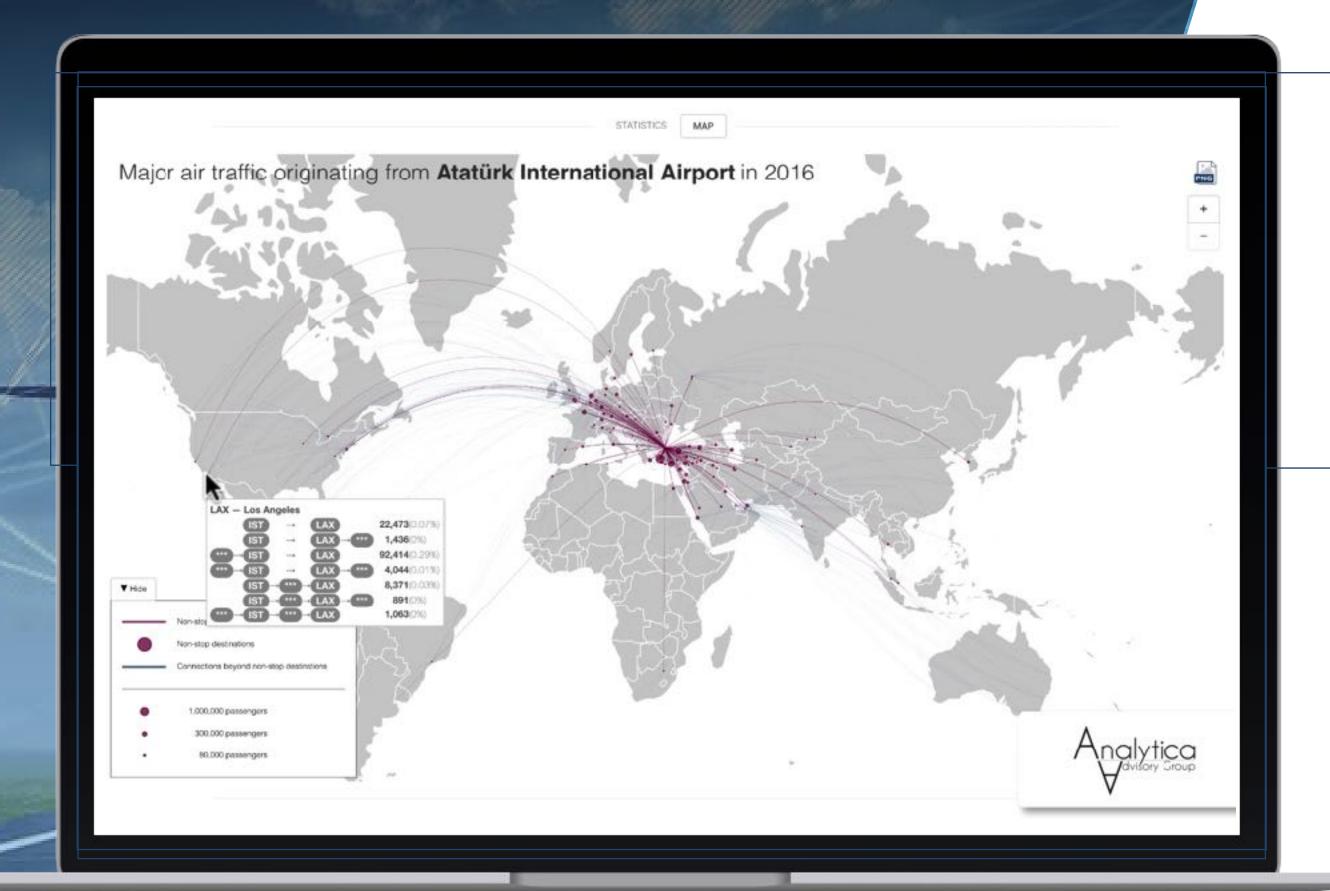






AIRPORT ANALYSIS MODULE

II. "MAP" Sub-Module

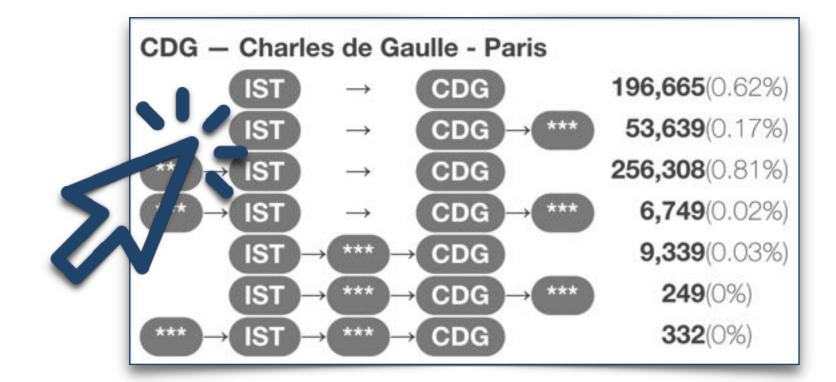


VECTOR MAPS ILLUSTRATING ROUTES

- Leverage the power of your presentations with hd vector maps for any airline's routes in a specific year.
- More insightful analysis with map views

LEGENDS, TOOLTIPS AND ILLUSTRATED ROUTES WITH ALL BREADOWNS OF TRAFFIC

 Hover your mouse to trigger insightful tooltips for rather analysis









DYNAMIC CHARTS & MAP

Summary Table (Outbound one way traffic)

Origin Traffic Charts (Origin airports & Last domestic airports)

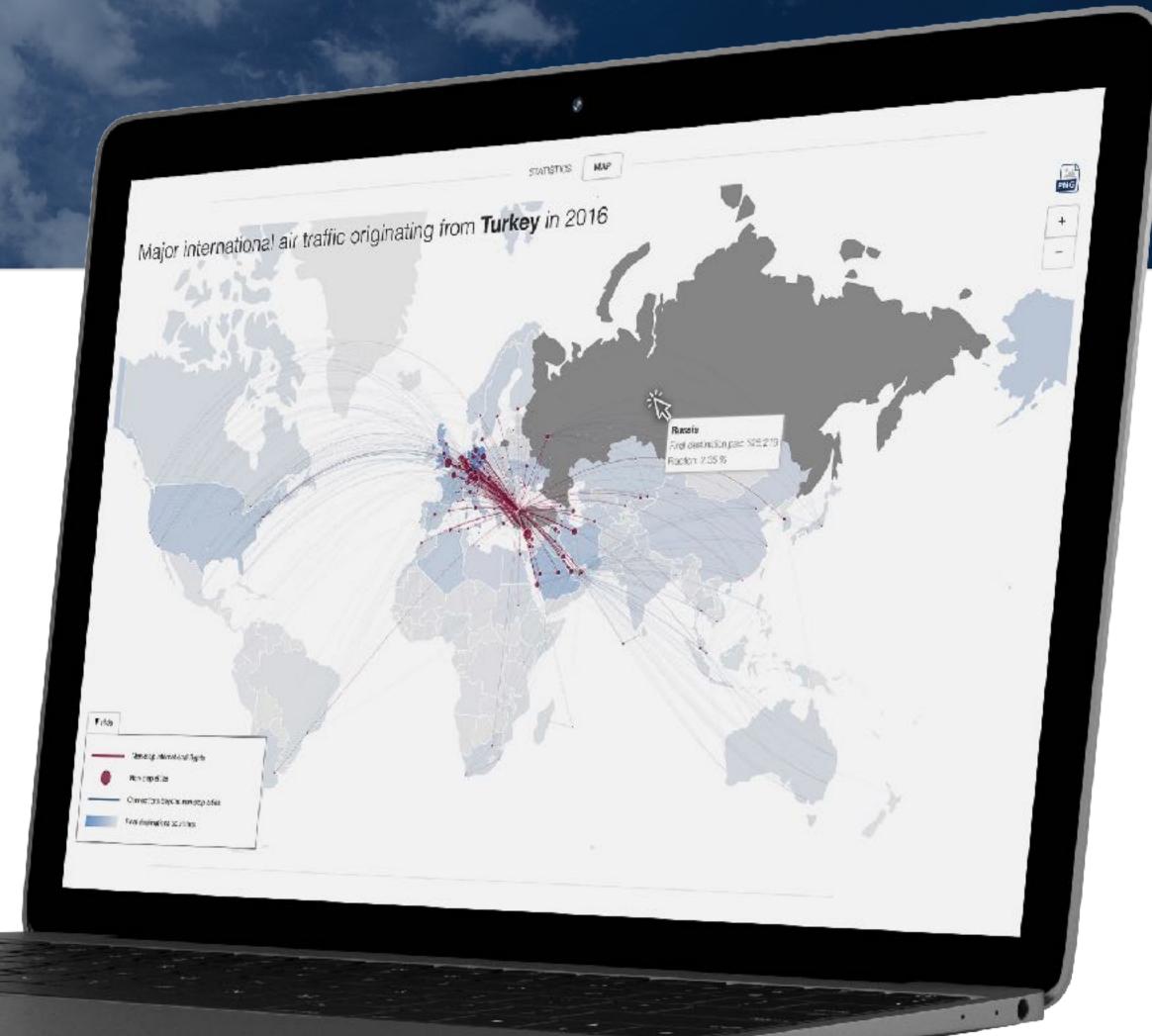
Destination Traffic Charts (Country destinations & Airport destinations)

Market Share Chart (Market share for originated traffic)

Transfers Chart (Transfer airports on outbound routes)

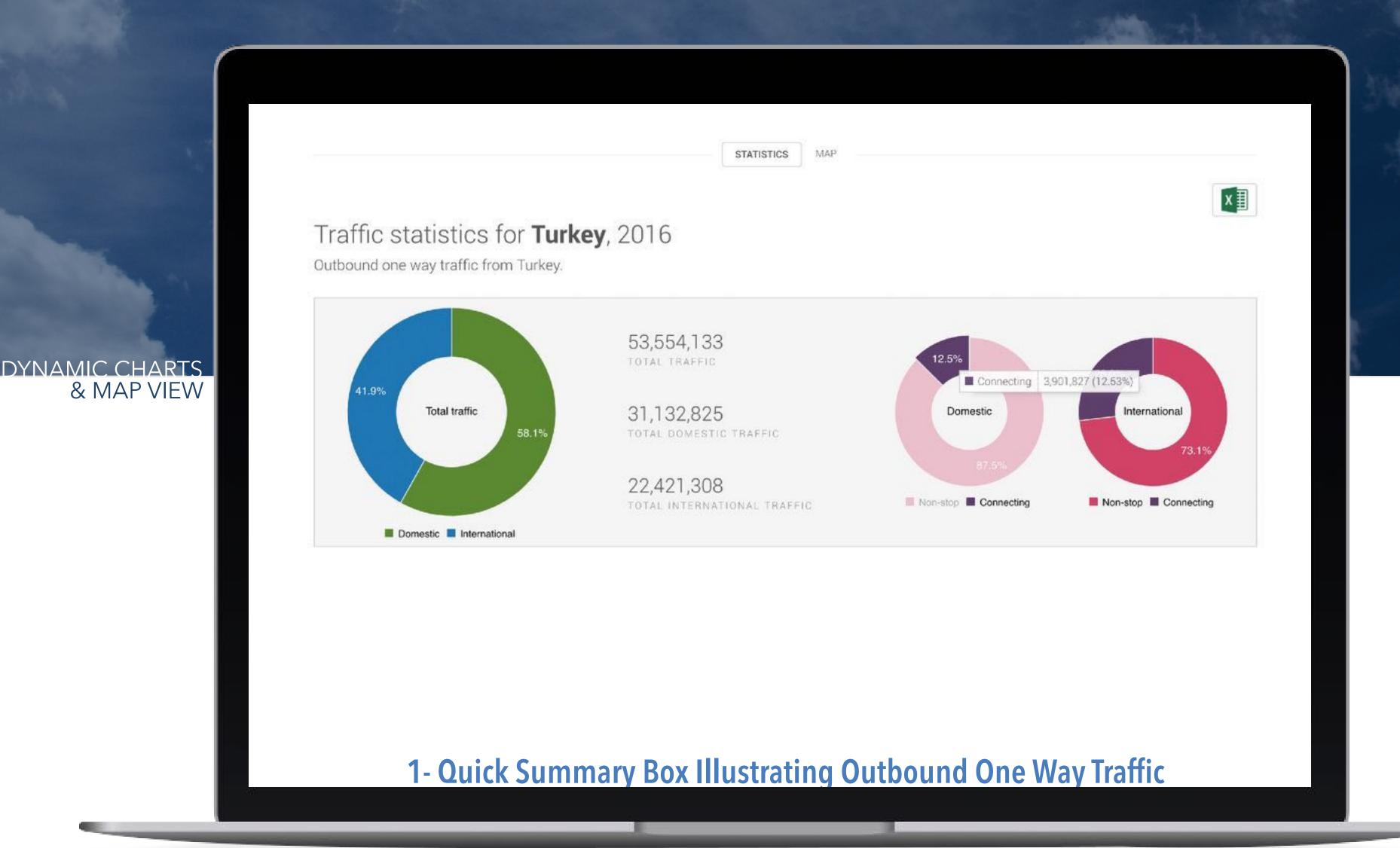
Routes Chart (Outbound routes)

Vector Map with Routes





















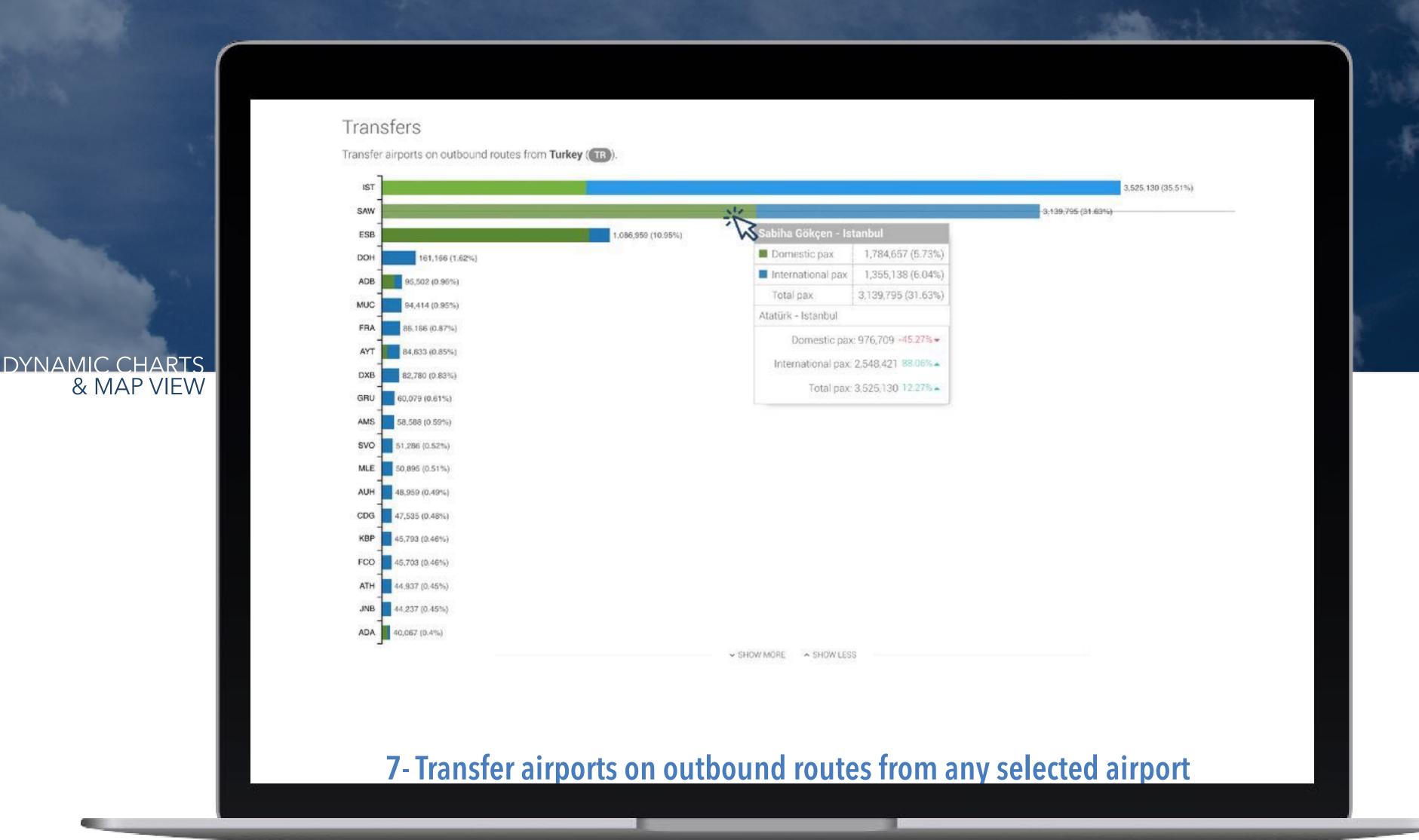






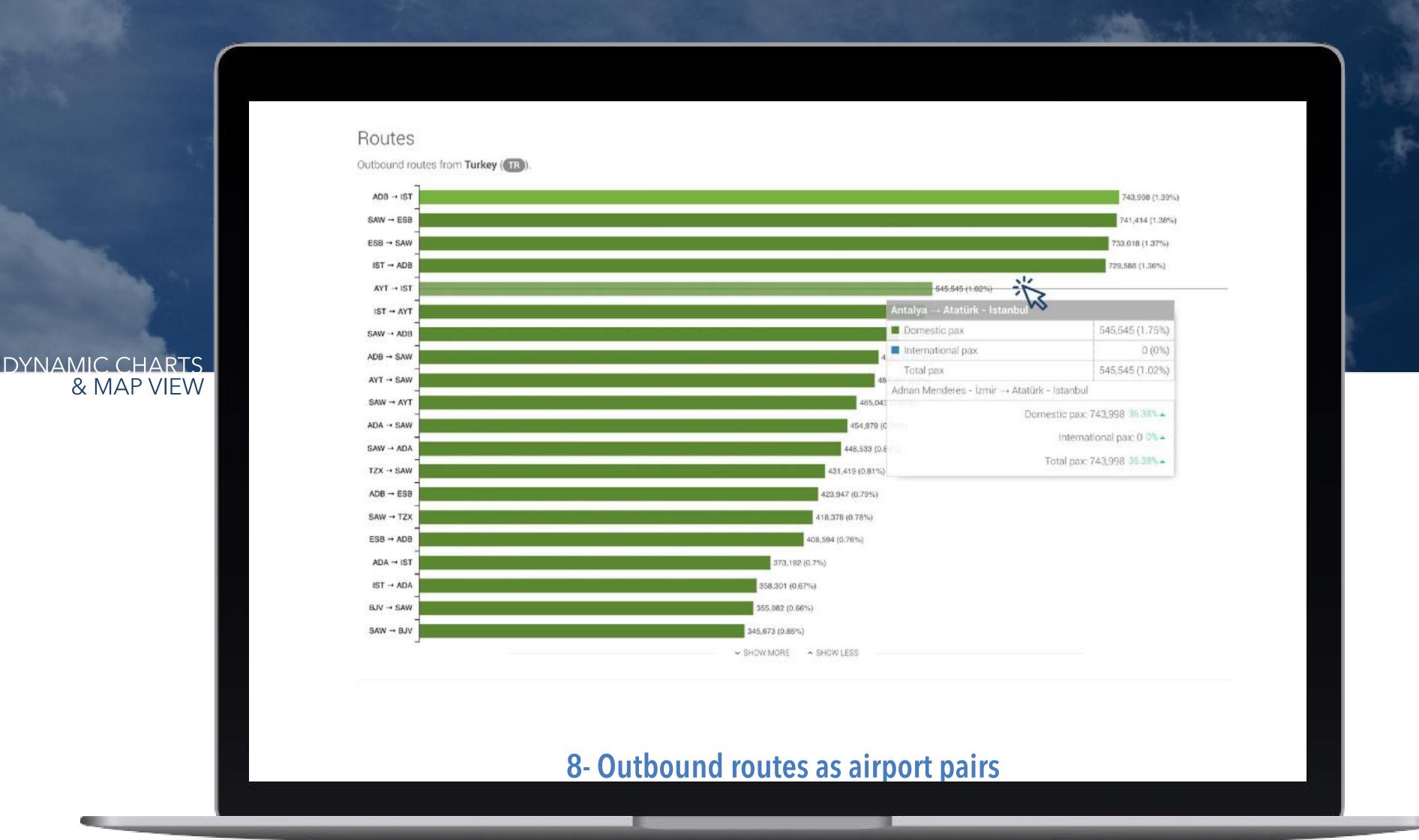






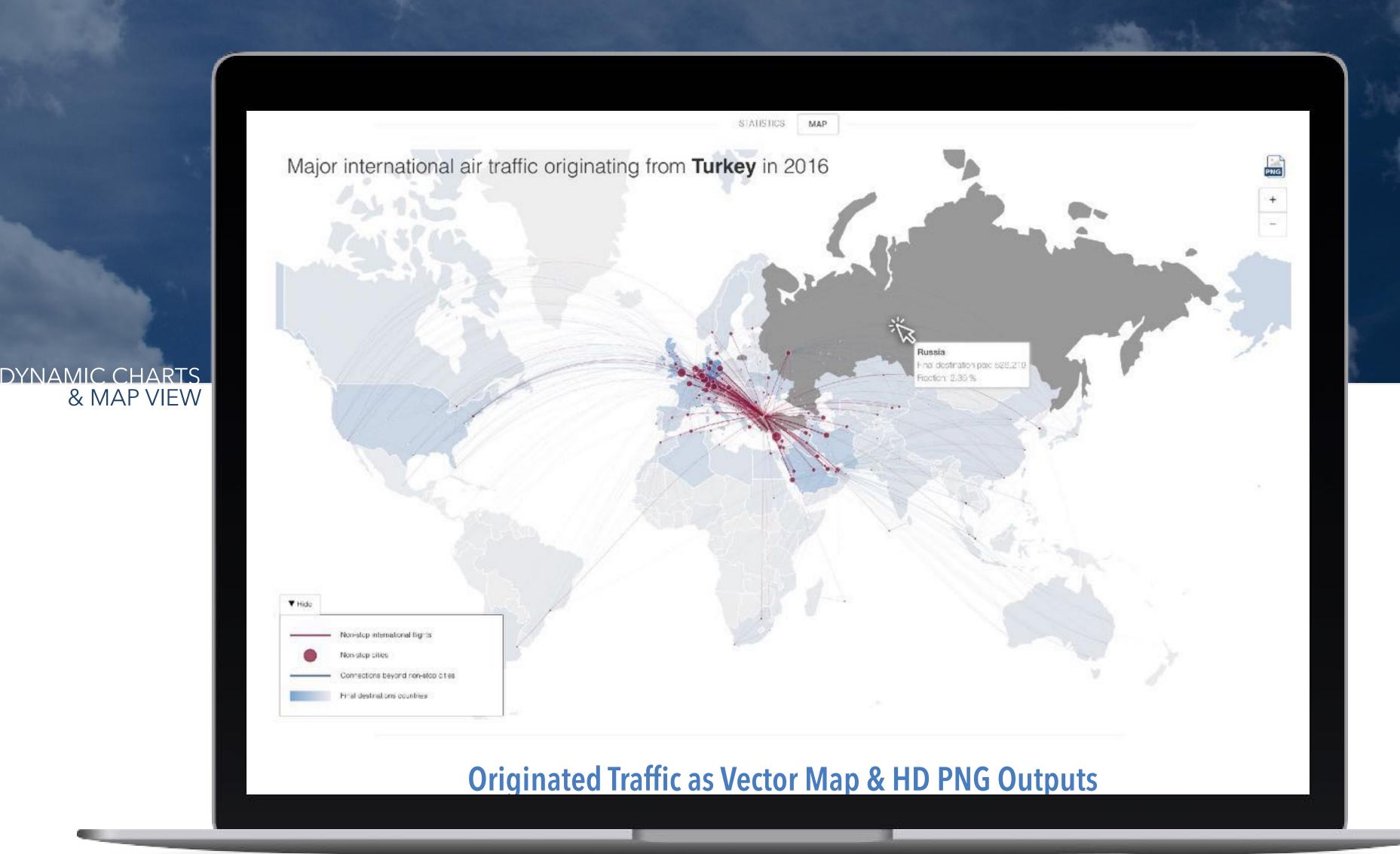












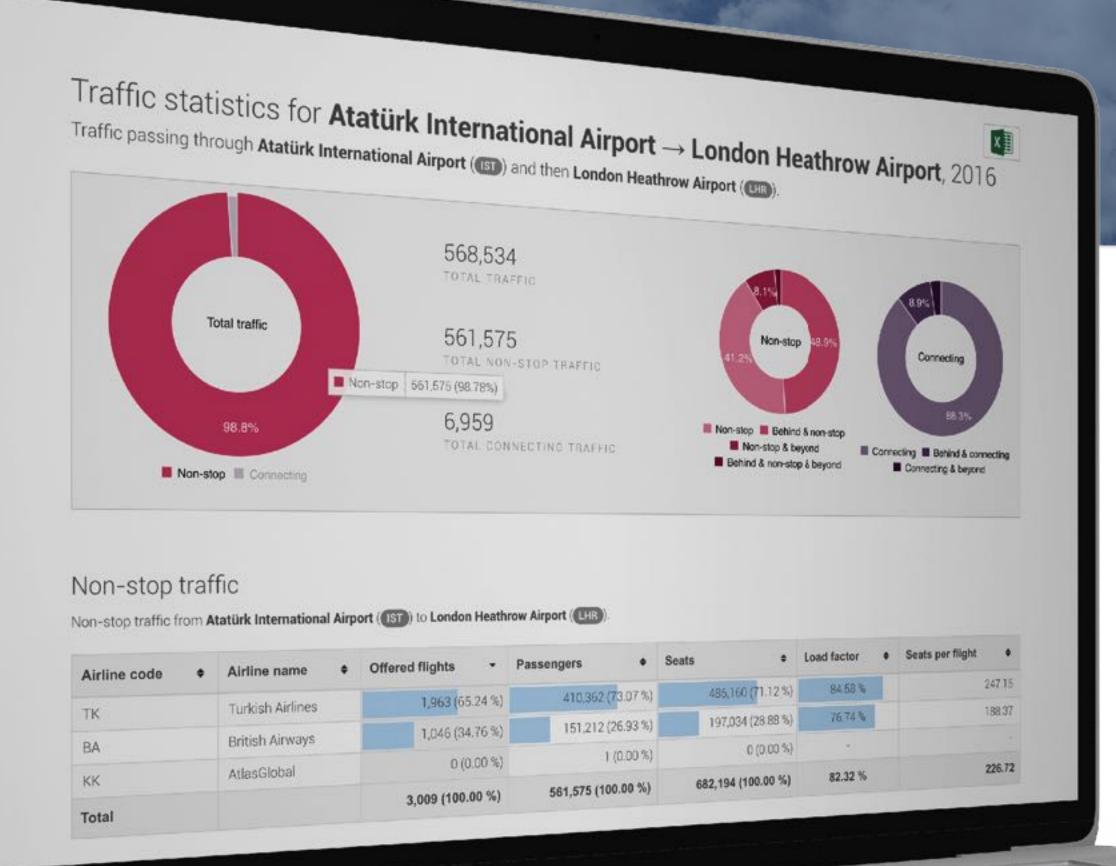






ROUTE ANALYSIS MODULE

Monitor & Analyze one way traffic between any two airports



DYNAMIC CHARTS & VECTOR MAP

Summary Table (Outbound one way traffic)

Non-Stop Traffic Chart by Airlines

Connecting Traffic Chart by Airports

Vector Map with Routes





ROUTE ANALYSIS MODULE

Monitor & Analyze one way traffic between any two airports Summary Table

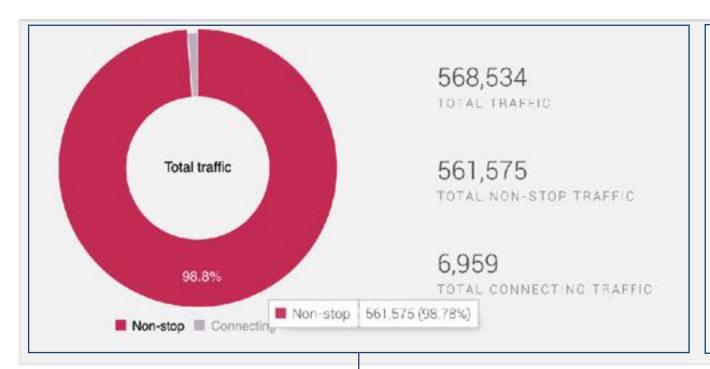


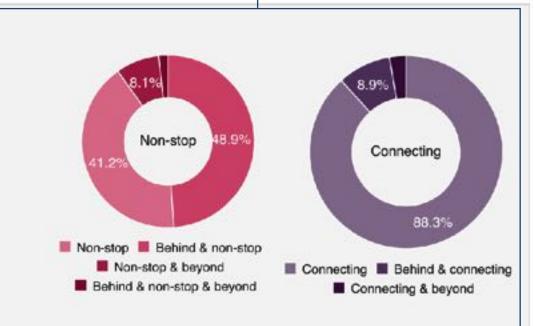
"XLSX" FORMAT REPORT OUTPUT

x 🎚

Traffic statistics for Atatürk International Airport → London Heathrow Airport, 2016

Traffic passing through Atatürk International Airport (ISD) and then London Heathrow Airport (IHB).





TOTAL TRAFFIC

- Total Traffic
- Total Non-Stop Traffic
- Total Connecting Traffic

BREAKDOWNS OF NON-STOP & TOTAL TRAFFIC

- Non-Stop Traffic
 - Non-Stop
 - Behind & Non-Stop
 - Non-Stop & Beyond
 - Behind & Non-Stop
- Connecting Traffic
 - Connecting
 - Behind & Connecting
 - Connecting & Beyond



ROUTE ANALYSIS MODULE

Monitor & Analyze one way traffic between any two airports

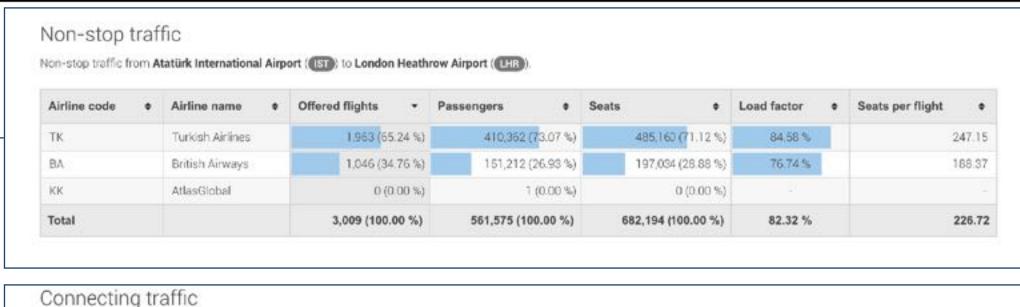
Non-Stop & Connecting Traffic Charts

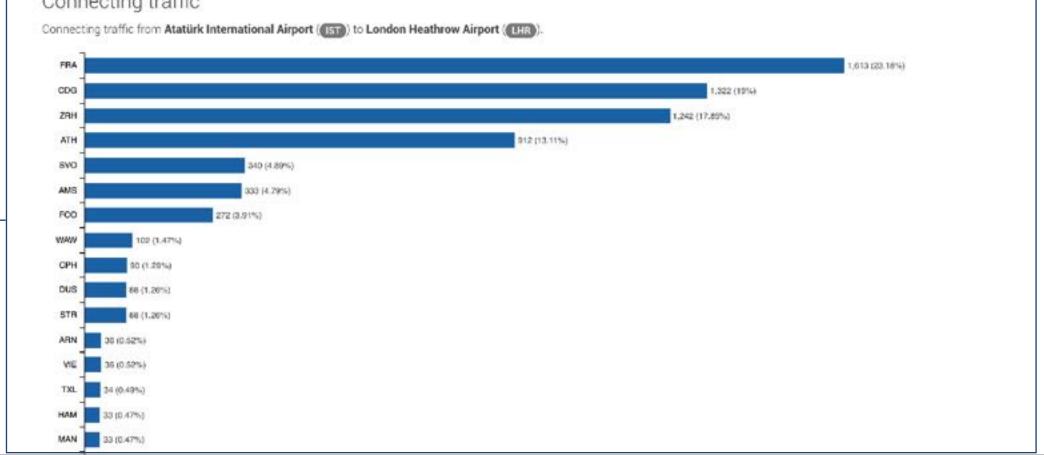
NON-STOP TRAFFIC CHART

- Non-Stop Traffic by Airlines Between Selected Airlines
- Airline Name & Code
- Number of Offered Flights
- Number of Passengers Carried
- Seats
- Load Factor by Airlines
- Seats Per Flight

CONNECTING TRAFFIC CHART

- Connecting Traffic by Connection Airports
- Number of Passengers Carried by Connection Airports
- Insightful Tooltips to compare the connecting airports





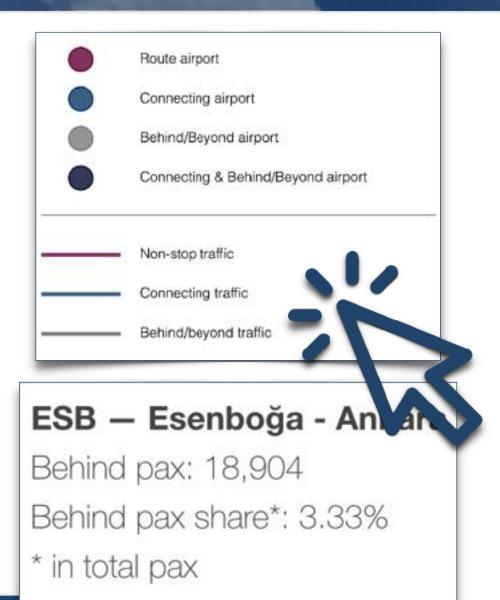




ROUTE ANALYSIS MODULE

Monitor & Analyze one way traffic between any two airports "MAP" Sub-Module

- HD Vector map with PNG output option
- Zoom in / Zoom Out to view all the routes
- View all the traffic breakdowns
- Insightful tooltips with traffic breakdowns









QUERY BY AIRLINES & FREEDOMS

TRAFFIC BY FREEDOMS AND AIRLINE

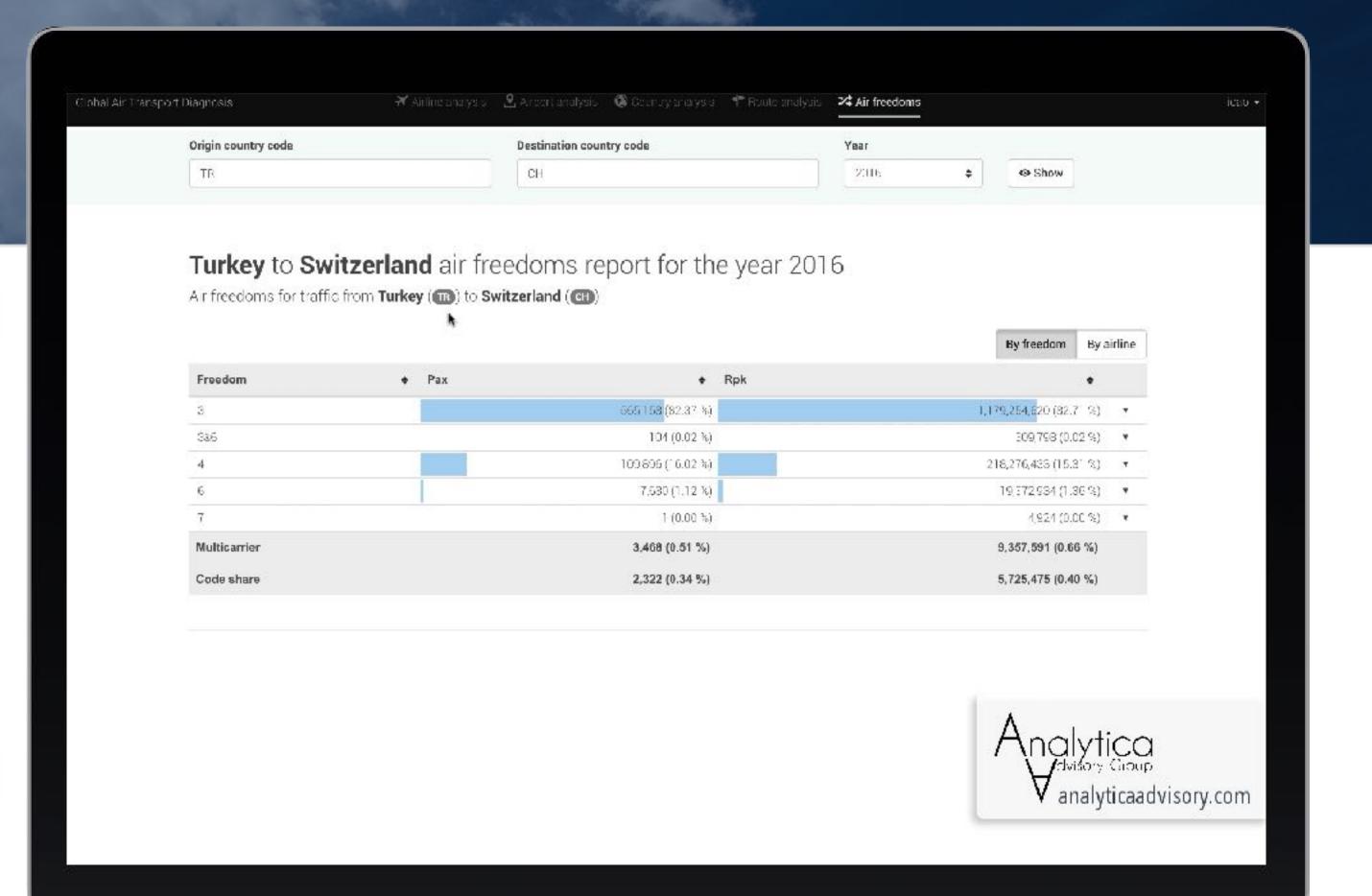
- View the traffic breakdowns between any selected country pair by air freedoms
- Monitor "Pax" and "RPK" volumes by freedoms and airlines
- Use two different dynamic views to query by Freedoms and / or airlines

By freedom

By airline

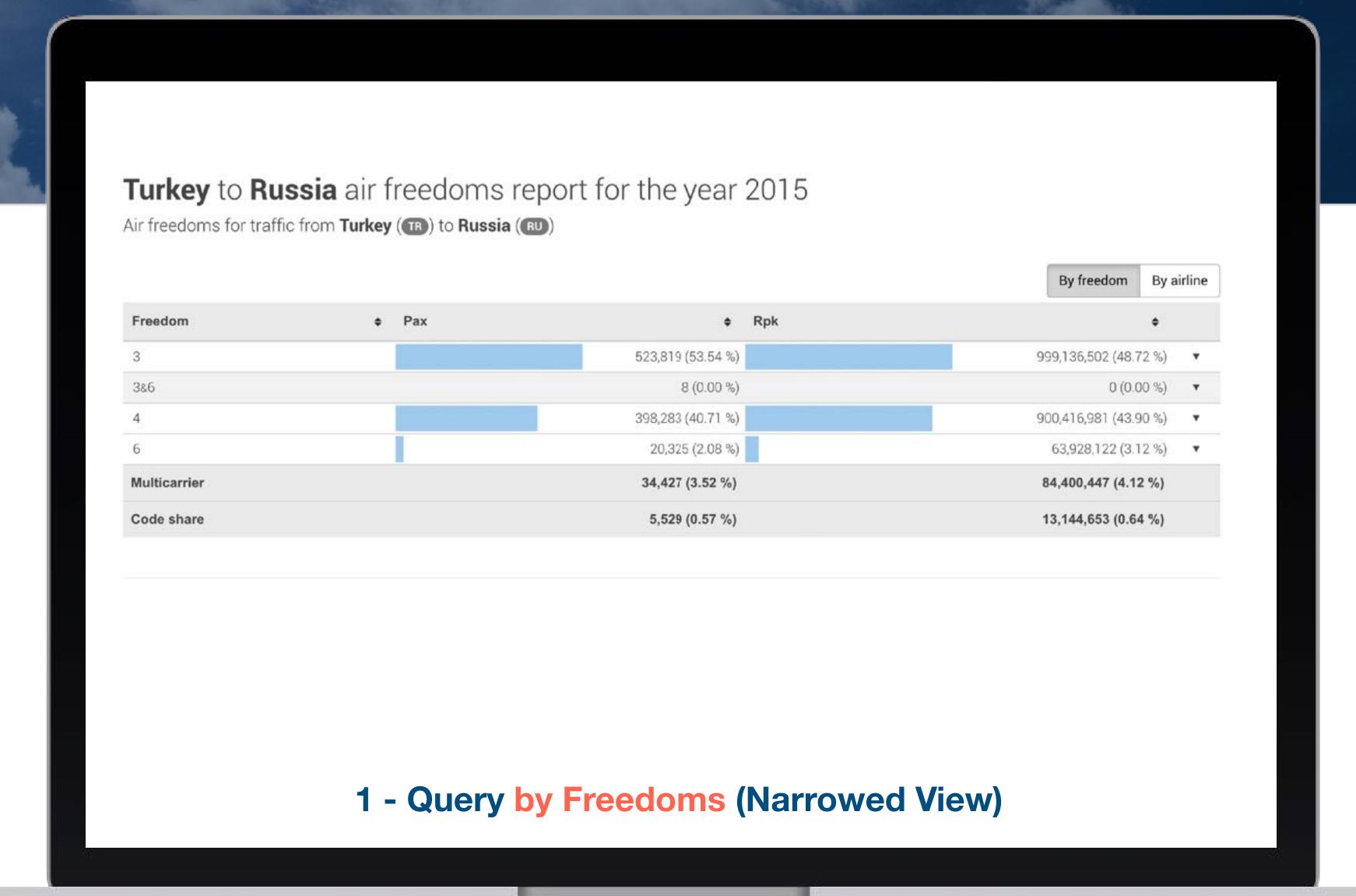
MONITOR CODESHARE AND MULTICARRIER TRAFFIC

- View the "Pax" and "RPK" shares of Codeshares for any country pair
- View the "Pax" and "RPK" shares of Multi-carriers for any country pair



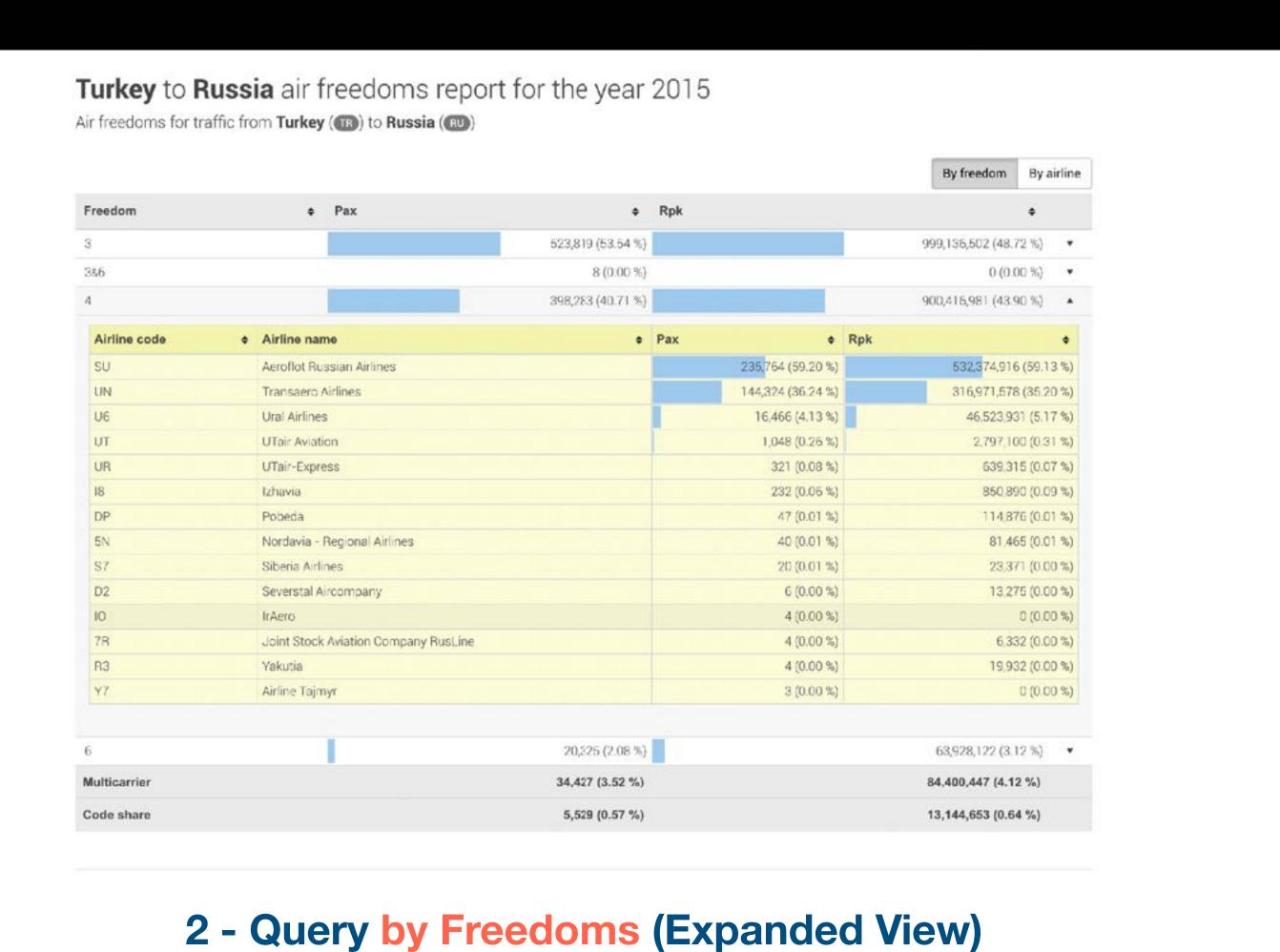
















By freedom

By airline

Turkey to Russia air freedoms report for the year 2015

Air freedoms for traffic from Turkey (TR) to Russia (RII)

								By freedom	Вуа	irline	
Airline code	•	Airline name	٠	Freedoms	Pax	٠	Rpk			•	
TK		Turkish Airlines		3		344,551 (35.22 %)		691,231,595 (33.7	70 %)	*	
SU		Aeroflot Russian Airlines		4		235.764 (24.10 %)		532,374,916 (25.5	96 %)	*	
UN		Transaero Airlines		4		144,324 (14,75 %)		315,971,578 (15.4	46 %)	•	
PC		Pegasus Airlines		3, 386		97,977 (10.01 %)	_	133,299,259 (6.6	50%)	*	
80		Onur Air		3, 3&6		58,995 (5.03 %)		125,176,624 (6.1	10%)	*	
KK		Atlas@lobal		3		22,274 (2.28 %)		49,390,894 (2.4	13 %)	*	
U6		Ural Airlines		4		15,465 (1.68 %)		46,523,931 (2.2	27%)	7.	
9U		Air Moldova		6		7,511 (0.77 %)		14,304,060 (0.7	70%)	*	
PS		Ukraine International Airlines		6		2,681 (0.27 %)		5,052,015 (0.2	25 %)	*	
J2		Azerbaijan Airlines		6		2,098 (0.21 %)		8,423,544 (0.4	41 %)	*	
KC		Air Astana		6		1,958 (0.20 %)		7,672,502 (0.3	37%)	*	
OZ.		Asiana Airlines		6		1,909 (0.20 %)		17,068,125 (0.8	93 %)	*	
UT		UTair Aviation		4		1,048 (0.11 %)		2,797,100 (0.1	14%)	*	
B2		Belavia		6		823 (0.08 %)		1,543,602 (0.0	08%)	*	
AY		Finnair		6		733 (0.07 %)		2,057,649 (0.1	10%)	٠	
RO		Tarom		6		516 (0.05 %)		924,300 (0.0	05%)	*	
LH		Lufthansa German Airlines		6		496 (0.05 %)		1,437,034 (0.0	07%)	¥	
as		SmartWings		6		405 (0.04 %)		1,434,758 (0.0	07%)	*	
OK		Czech Airlines		6		405 (0.04 %)		1,434,758 (0.0	07%)	*	
UR		UTair-Express		4		321 (0.03 %)		639,315 (0.0	03 %)	*	
Multicarrier						34,427 (3.52 %)		84,400,447 (4.1)	2 %)		
Code share						5,529 (0.57 %)		13,144,653 (0.6	4 %)		
				~ Show more @)						

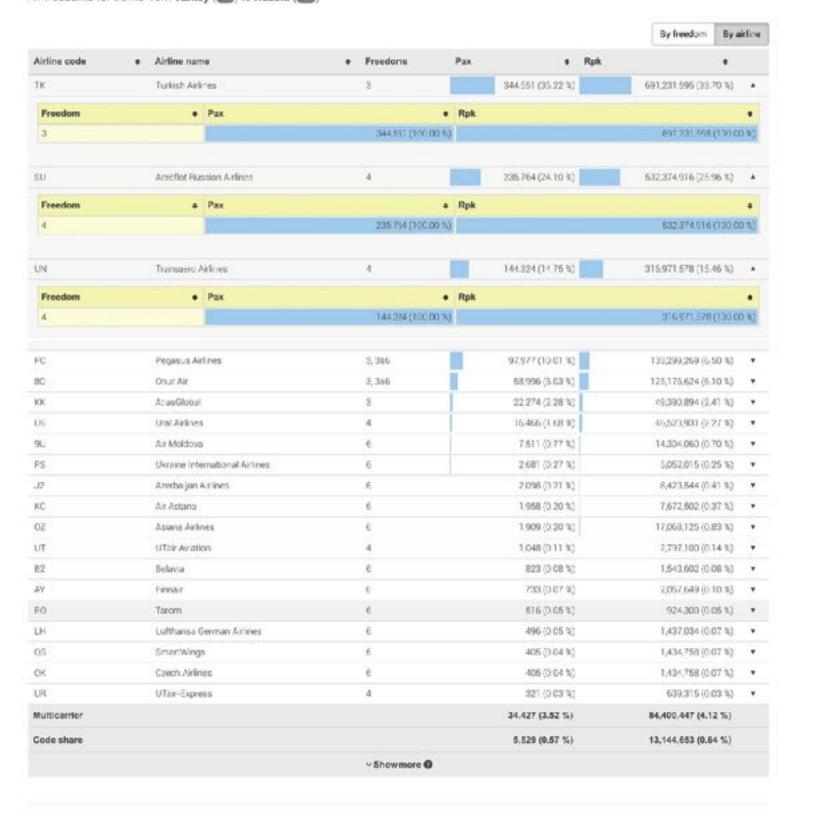
3 - Query by Airline (Narrowed View)





Turkey to Russia air freedoms report for the year 2015

Air freedoms for traffic from Turkey (68) to Russia (68)



4 - Query by Airline (Expanded View)





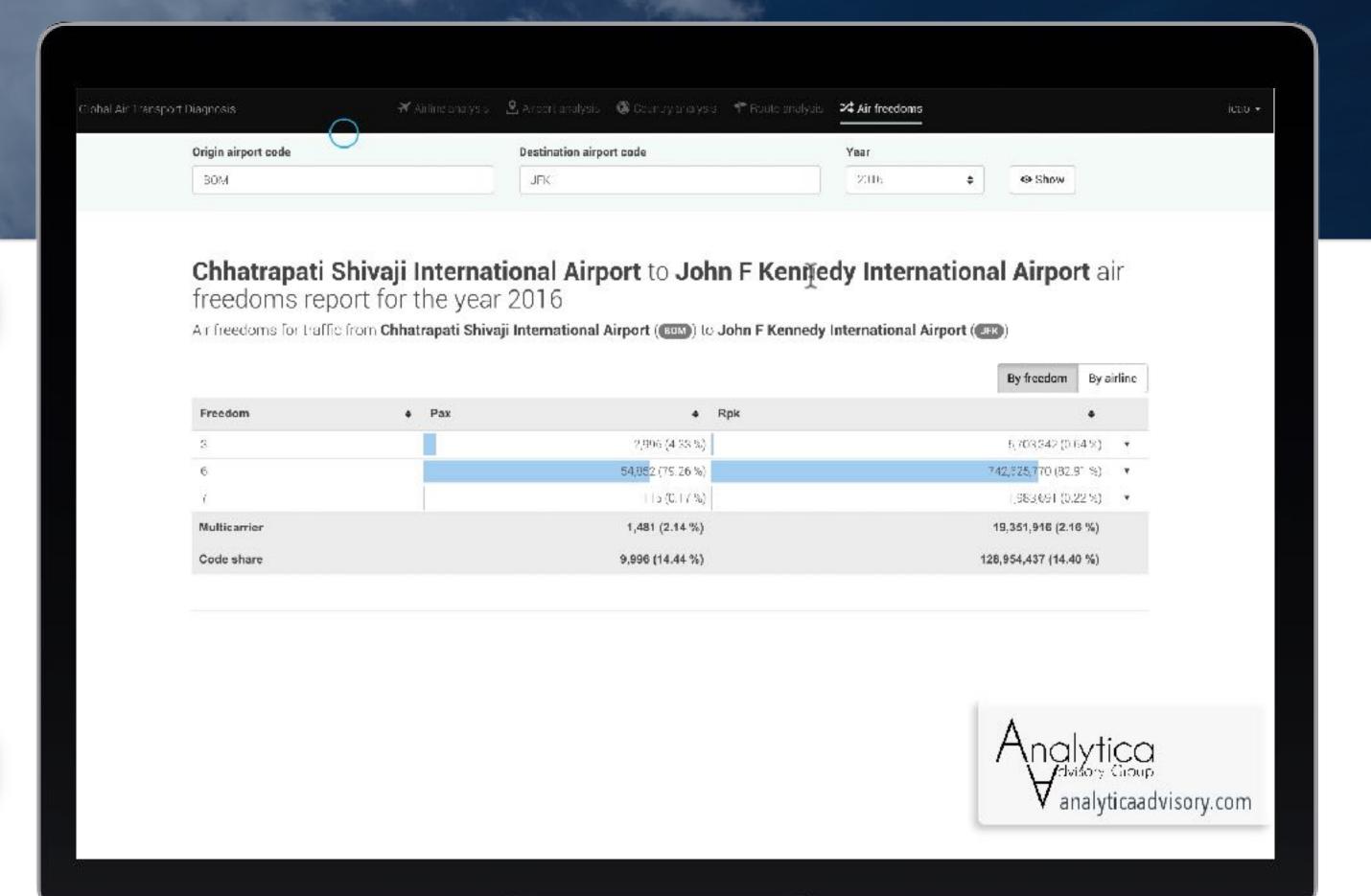
QUERY BY AIRLINES & FREEDOMS

TRAFFIC BY FREEDOMS AND AIRLINE

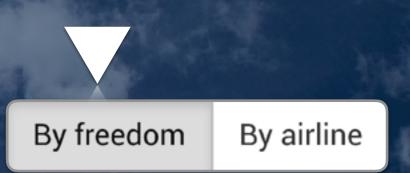
- View the traffic breakdowns between any selected airport pair by air freedoms
- Monitor "Pax" and "RPK" volumes by freedoms and airlines for airport pairs
- Use two different dynamic views to query by Freedoms and / or airlines

MONITOR CODESHARE AND MULTICARRIER TRAFFIC

- View the "Pax" and "RPK" shares of Codeshares for any airport pair
- View the "Pax" and "RPK" shares of Multi-carriers for any airport pair







Air freedoms for traffic from Chhatrapati Shivaji International Airport (BOM) to John F Kennedy International Airport (BOM)

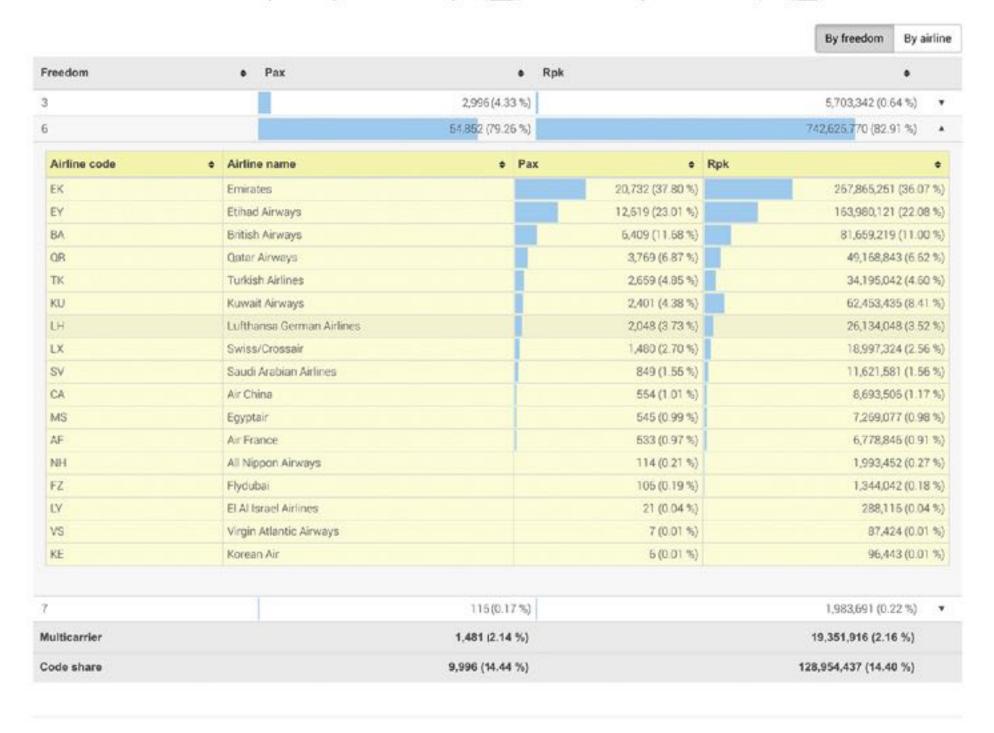
Freedom			By freedom By airlin		
	Pax	Rpk	•		
3		2,996 (433%)	5,703,342 (0.64 %)		
6		54,852 (79 26 %)	742,625,770 (82.91 %) ▼		
7		115 (0 17 %)	1,983,691 (0.22 %) ▼		
Multicarrier		1,481 (2.14 %)	19,351,916 (2.16 %)		
Code share		9,996 (14.44 %)	128,954,437 (14.40 %)		

1- Query by Freedoms (Narrowed View)





Air freedoms for traffic from Chhatrapati Shivaji International Airport (DOM) to John F Kennedy International Airport (DOM)



2 - Query by Freedoms (Expanded View)





Air freedoms for traffic from Chhatrapati Shivaji International Airport () to John F Kennedy International Airport ()

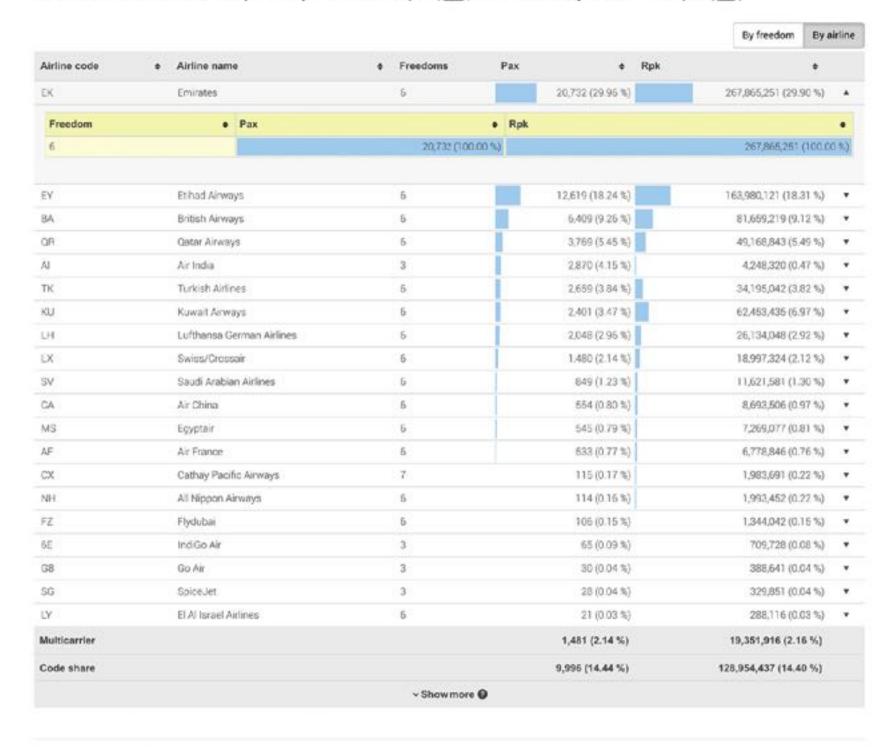
						By freedom By:	airline
Airline code	Airline name	Freedoms	Pax	•	Rpk	•	
EK	Emirates	6		20,732 (29.96 %)		267.865,251 (29.90 %)	
EY	Etihad Airways	6		12,619 (18.24 %)		163,980,121 (18.31 %)	*
ва	British Airways	6		6,409 (9.26 %)		81,659,219 (9.12%)	*
QR	Qatar Airways	6		3,769 (5.45 %)		49,168,843 (5.49 %)	*
AI	Air India	3		2,870 (4,15 %)		4,248,320 (0.47 %)	*
TK	Turkish Airlines	6		2,659 (3.84 %)		34,195,042 (3.82 %)	•
KU	Kuwait Airways	6		2,401 (3.47 %)		62,453,435 (6.97 %)	*
LH	Lufthansa German Airlines	6		2,048 (2.96 %)		26,134,048 (2.92 %)	٠
LX	Swiss/Crossair	6		1,480 (2.14 %)		18,997,324 (2.12 %)	*
SV	Saudi Arabian Airlines	6		849 (1.23 %)		11,621,581 (1.30%)	٠
CA	Air China	6		554 (0.80 %)		8,693,506 (0.97 %)	
MS	Egyptair	6		545 (0.79 %)		7,269,077 (0.81 %)	*
AF	Air France	6		533 (0.77 %)		6,778,846 (0.76 %)	•
CX	Cathay Pacific Airways	7		115 (0.17 %)		1,983,691 (0.22%)	*
NH	All Nippon Airways	6		114 (0.16 %)		1,993,452 (0.22 %)	•
FZ	Flydubai	6		106 (0.15 %)		1,344,042 (0.15 %)	٠
GE .	IndiGo Air	3		65 (0.09 %)		709,728 (0.08 %)	*
38	Go Air	3		30 (0.04 %)		388,641 (0.04%)	٠
SG	Spice.let	3		28 (0.04 %)		329,851 (0.04 %)	*
LY	El Al Israel Airlines	6		21 (0.03 %)		288,116 (0.03 %)	*
Multicarrier				1,481 (2.14 %)		19,351,916 (2.16 %)	
Code share				9,996 (14.44 %)		128,954,437 (14.40 %)	
		~ Show more	0				

3 - Query by Airline (Narrowed View)





Air freedoms for traffic from Chhatrapati Shivaji International Airport () to John F Kennedy International Airport ()



4 - Query by Airline (Expanded View)

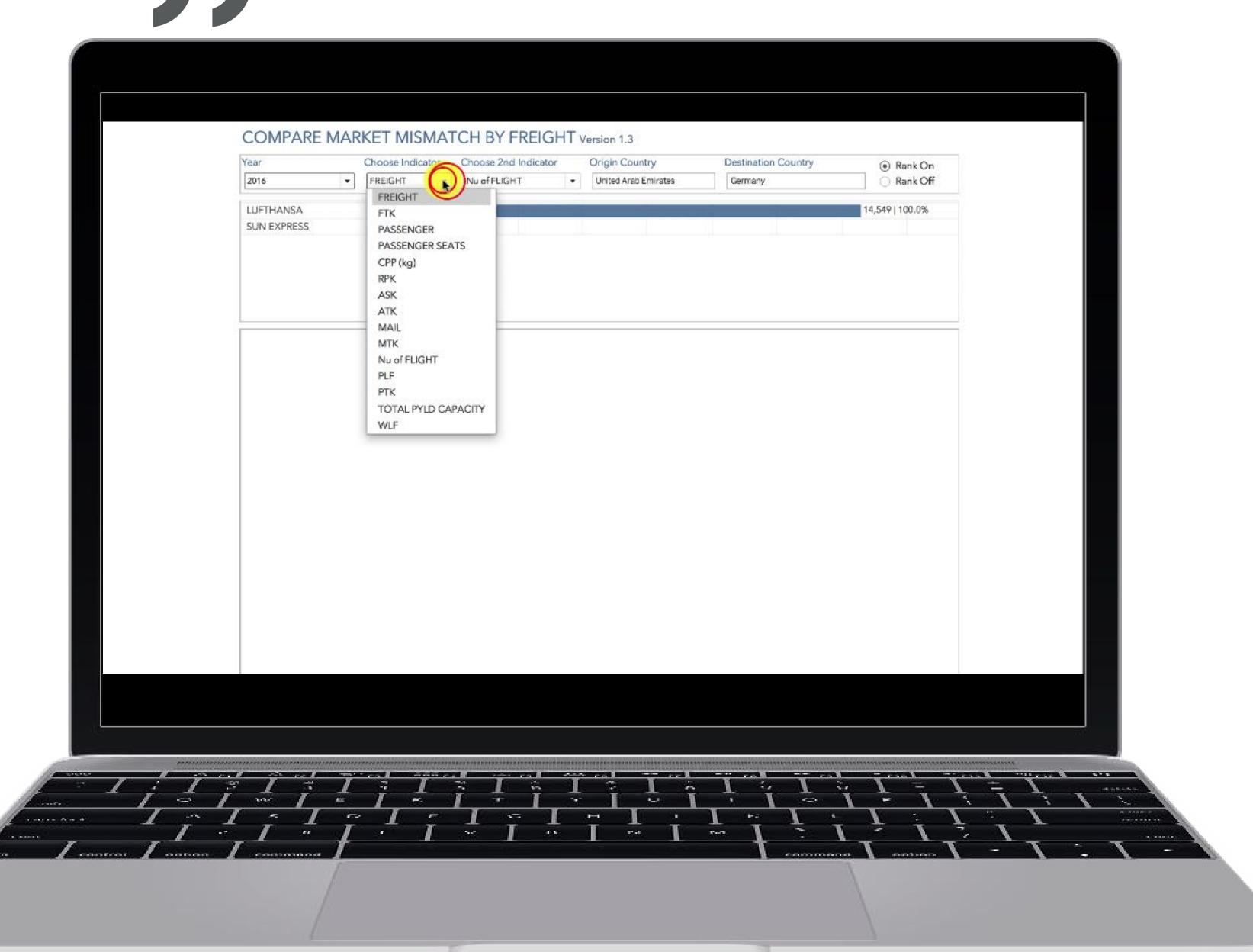






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THANKYOU

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