S SAT22-WP/3
June 2017

TWENTY-SECOND MEETING ON THE IMPROVEMENT OF AIR TRAFFIC SERVICES OVER THE SOUTH ATLANTIC (SAT22)

(Paris, France, 7 June to 9 June 2017)

Agenda Item 1: Air Traffic Management (ATM)

Air traffic statistics of the EUR-SAM Corridor during 2016 and air traffic evolution since 2004

(Presented by SATMA)

SUMMARY

This information paper presents to SAT States global comprehensive information about the air traffic statistics of the EUR-SAM Corridor during year 2016 as well as the evolution of these figures since 2004.

1. INTRODUCTION

One important task of the SATMA is the collection and elaboration of the statistical data of the air traffic movements along the EUR-SAM Corridor. The importance of these data as well as its evolution during the past years has been strongly highlighted in previous SAT Meetings as an important base to take preventive actions in line with the evolution of these figures. Nevertheless, several issues were detected during last SATs related to the statistical data presented:

- Provided figures do not represent whole EUR/SAM Corridor since data is based exclusively on traffic that fly over Canarias FIR;
- There are not data related to Fleet FANS 1A/RNP4 Capabilities;

The objective of this working paper is to cover both, the mentioned detected issues and SATMA monitoring performed in the EUR-SAM Corridor.

Once presented in SAT/22 Meeting, this statistical data of the EUR-SAM Corridor will be available on SATMA web page: www.satmasat.com.

2. DISCUSSION

2.1 Air traffic statistics of the EUR-SAM Corridor during 2016 and air traffic evolution since 2004

2016 has had a decrease in the global figures of the EUR-SAM Corridor with regard to precedent years. The total traffic in the corridor in 2016, 26359, is the worst figure registered in EUR/SAM Corridor since 2004, year when began this analysis and which denotes a 1.6 % of drop. The positive reading is an upward trend, particularly in five (out of twelve) months which shows an increase in the traffic since 2015. This trend is also consolidated in 2017 where can be seen an increase in the traffic evolution.

Regarding the southbound traffic, it is slightly above 2015 and in the opposite way, northbound traffic is marked fall (15068 vs 14201).

As previously said, the preliminary figures registered at the advanced analysis of 2017 show an upward trend with respect to this report. For instance, the daily average demand in 2016 was 72 and in 2017 has been 79.

Regarding the use of airways in 2016, the decrement has been mainly focused on UN741, UN866 and UN857. The rest of ATS routes keep the same or higher percentage trend.

One more year, the main origin/destination are airports located in Portugal and Brazil. However, both areas registered a fall respect to previous year of 5.1 % and 14.6 % respectively.

To conclude this information paper, it is highlighted the ranking of airlines in the corridor which remains as previous year. In fact, Portugal Airline (TAP) maintains the first position while Iberia (IBE) is the second one. It is remarkable the variation of Air Europa and Thomas Cook Airlines which increases 56.5 % and 29.9 % respectively.

See hereafter the annex where it is described either the hypothesis of this analysis and a comprehensive report of statistical data in the EUR/SAM corridor during 2016.

2.2 Air traffic statistics of the EUR-SAM Corridor (2016 per ACC).

Even though global figures and conclusions should be obtained directly from the data provided by each ASNP with an easy and simple process, the data provided are not coherent among ANSP. For instance, there are flight plans that are not registered by all involved ASNPs, the operational information shows differences in terms of time, flight levels or coordination points, and even flight plans of the same day reported by the same ANSP with the same times but different trajectories.

Therefore, and in order to increase the consistency of this operational data, several hypothesis and assumptions have been considered:

- The information supplied has been treated globally, so that lacking or erroneous information provided by an ASNP has been corrected according with the rest of existing information for that flight. Therefore, time, flight level and coordination points have been revised.

- Whereas flight plan information had only an initial and final point, the flight plan has been extrapolated to the closer route. For instance, if the initial flight plan was TENPA SAMAR, the final flight plan would be TENPA USOTI APASO VIDRI GDV SAMAR.

- It is considered "EUR/SAM traffic" the traffic which has flown at least a leg of the following AWYs in SBAO/GOOO/GVSC FIRs: UN741, UN866, UN873 and UN857.

- The information related to dates, months, and times is obtained from the first waypoint where the flight is referred. The criteria and information used to perform this study, both global and per FIR, are the same.

Next table shows the statistic of flights per ACC and ATS Routes for January 2016.

	JANUARY 2016							
	TOTAL	RANDOM AREA	% EURSAM	UN741	UN866	UN873	UN857	TRANSVERSAL
CANARIES FIR	2355	210	91.1%	144	372	1259	370	-
SAL OCEANIC FIR	3635	1152	68.3%	142	370	1324	249	398
DAKAR OCEANIQUE FIR	3218	1578	51.0%	341	340	661	251	47
ATLANTICO FIR	3871	2236	42.2%	339	316	667	253	60

Main conclusions of these comparatives show that:

- Traffic from/to Cabo Verde to/from Europe is particular pattern traffic for Canaries and Sal Oceanic FIR.

- UN866 and UN857 show similar figures in each FIR.

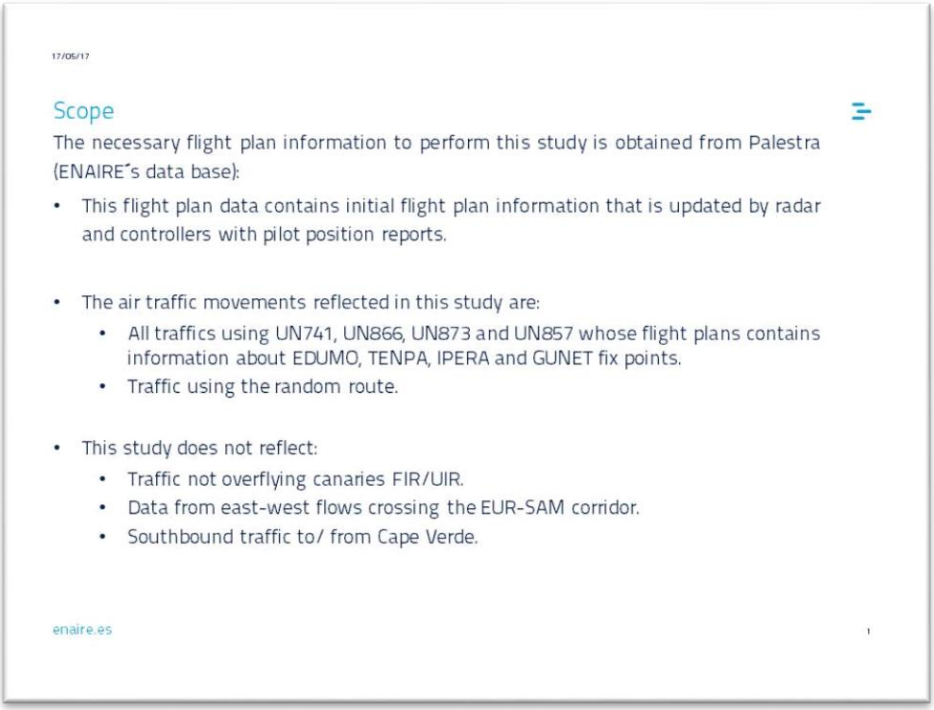
- The number of traffic overflying Random Area is no similar in the corridor. Hence, figures of traffic in UN741 is higher in DAKAR and ATLANTICO. In fact, part of traffic flying by DCT (random areas) in Sal/DAKAR FIR is merged downstream in the UN741.

3. ACTION BY THE MEETING

The SAT/22 Meeting is invited:

- To analyse and discuss the conclusions of this WP/ANNEX I.

ANNEX I – Air traffic statistics of the EUR-SAM Corridor during 2016 and air traffic evolution since 2014



17/05/17

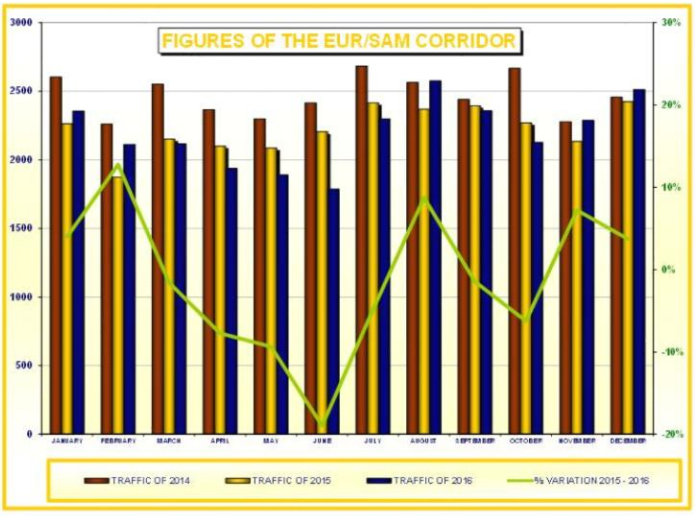
Global figures of the EUR/SAM corridor

MONTH	SOUTHBOUND		NORTHBOUND		TOTAL TRAFFIC IN THE CORRIDOR						% VARIATION	% VARIATION
	2015	2016	2015	2016	2014	DAILY	2015	DAILY	2016	DAILY	2014 - 2015	2015 - 2016
JANUARY	983	1188	1281	1167	2604	84	2264	73	2355	76	-13%	4%
FEBRUARY	789	918	1085	1195	2260	81	1874	67	2113	73	-17%	13%
MARCH	976	908	1175	1209	2552	82	2151	69	2117	68	-16%	-2%
APRIL	896	916	1203	1021	2366	79	2099	70	1937	65	-11%	-8%
MAY	960	790	1126	1101	2299	74	2086	67	1891	61	-9%	-9%
JUNE	918	852	1287	935	2414	80	2205	74	1787	62	-9%	-19%
JULY	1147	1139	1268	1159	2683	87	2415	78	2298	74	-10%	-5%
AUGUST	1000	1217	1368	1358	2563	83	2368	76	2575	83	-8%	9%
SEPTEMBER	1033	1104	1360	1254	2440	81	2393	80	2358	79	-2%	-1%
OCTOBER	904	1013	1365	1114	2667	86	2269	73	2127	69	-15%	-6%
NOVEMBER	880	969	1254	1319	2278	76	2134	71	2288	76	-6%	7%
DECEMBER	1127	1144	1296	1369	2456	79	2423	78	2513	81	-1%	4%
AVERAGE	968	1013	1256	1183	2465	81	2223	73	2197	72	-10%	-1%

enaire.es

17/05/17

Global figures of the EUR/SAM corridor



enaire.es

17/05/17

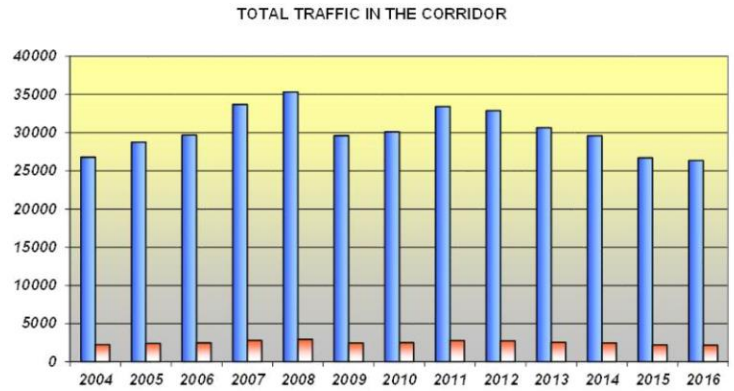
Number of movements

FIGURES OF	SOUTHBOUND	NORTHBOUND	TOTAL TRAFFIC IN THE CORRIDOR	MONTHLY	DAILY
2004	13108	13685	26793	2233	73
2005	14088	14674	28762	2397	79
2006	14651	15036	29687	2474	81
2007	16704	17004	33708	2809	92
2008	17024	18295	35319	2943	96
2009	14256	15366	29622	2468	81
2010	14083	16019	30102	2508	82
2011	15426	17988	33414	2784	92
2012	15245	17624	32869	2739	90
2013	14778	15867	30645	2554	84
2014	13469	16113	29582	2465	81
2015	11613	15068	26681	2223	73
2016	12158	14201	26359	2197	72

enaire.es 4

17/05/17

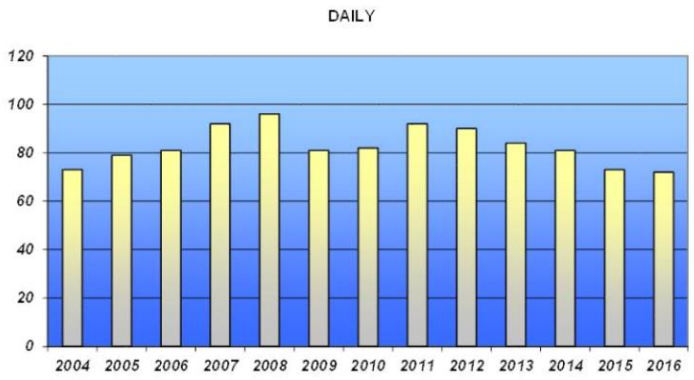
Number of movements



enaire.es 5

17/05/17

Average of daily traffic



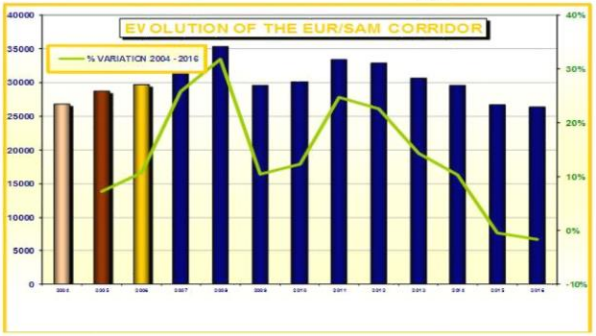
enaire.es

6

17/05/17

Evolution of the EUR/SAM corridor

FIGURES OF	SOUTHBOUND	NORTHBOUND	TOTAL TRAFFIC IN THE CORRIDOR	% INCREASE FROM 2004
2004	13108	13685	26793	-
2005	14088	14674	28762	7,3%
2006	14651	15036	29687	10,8%
2007	16704	17004	33708	25,8%
2008	17024	18295	35319	31,82%
2009	14256	15366	29622	10,56%
2010	14083	16019	30102	12,35%
2011	15426	17988	33414	24,71%
2012	15245	17624	32869	22,68%
2013	14778	15867	30645	14,38%
2014	13469	16113	29582	10,41%
2015	11613	15068	26681	-0,42%
2016	12158	14201	26359	-1,62%



enaire.es

7

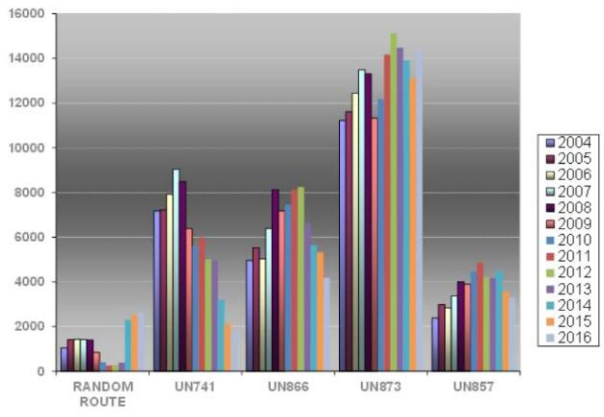
17/05/17

Traffic per ATS routes

	TOTAL	RANDOM ROUTE	UN741	UN866	UN873	UN857
2004	26793	1052	7179	4960	11219	2383
2005	28762	1413	7220	5534	11609	2986
2006	29687	1429	7935	5037	12442	2844
2007	33708	1424	9039	6389	13484	3372
2008	35319	1399	8486	8113	13314	4007
2009	29622	845	6383	7173	11320	3901
2010	30102	399	5605	7466	12170	4462
2011	33414	261	5999	8129	14172	4853
2012	32869	292	5009	8237	15129	4202
2013	30645	388	4968	6634	14477	4178
2014	29582	2310	3204	5650	13919	4499
2015	26681	2529	2121	5330	13134	3567
2016	26359	2643	1840	4201	14383	3292

17/05/17

Traffic per ATS routes



enaire.es
9

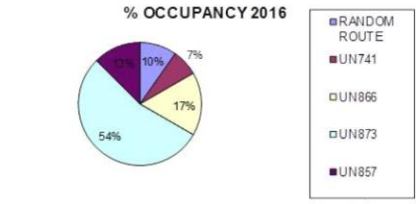
17/05/17

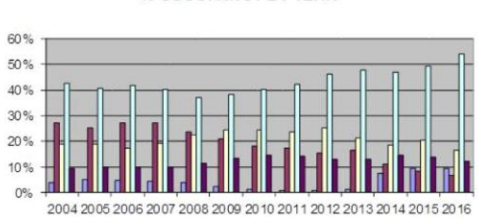
Daily Traffic

	TOTAL CORREDOR	RANDOM AREA		UN741		UN866		UN873		UN857	
		DAILY	%	DAILY	%	DAILY	%	DAILY	%	DAILY	%
2004	73	3	4%	20	27%	14	19%	31	42%	7	10%
2005	79	4	5%	20	25%	15	19%	32	41%	8	10%
2006	81	4	5%	22	27%	14	17%	34	42%	8	10%
2007	92	4	4%	25	27%	18	20%	37	40%	9	10%
2008	97	4	4%	23	24%	22	23%	36	37%	11	11%
2009	81	2	2%	17	21%	20	25%	31	38%	11	14%
2010	82	1	1%	15	18%	20	24%	33	40%	12	15%
2011	92	1	1%	16	17%	22	24%	39	42%	13	14%
2012	91	1	1%	14	15%	23	25%	42	46%	12	13%
2013	84	1	1%	14	17%	18	21%	40	48%	11	13%
2014	81	6	7%	9	11%	15	19%	38	47%	12	15%
2015	73	7	10%	6	8%	15	21%	36	49%	10	14%
2016	72	7	10%	5	7%	12	17%	39	54%	9	13%

17/05/17

Daily Traffic



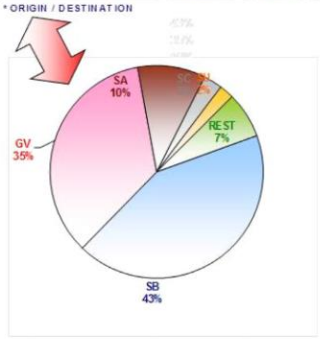


17/05/17

Main Flows

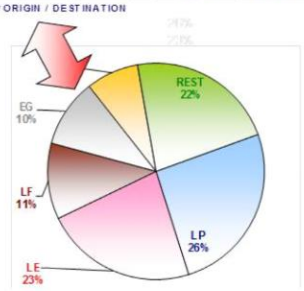
COUNTRY *	2015	2016	VAR %
SB	13234	11298	-14,6%
GV	8208	9185	11,9%
SA	2525	2716	7,6%
SC	846	746	-11,8%
SU	445	587	31,9%
REST	1423	1829	28,5%

* ORIGIN / DESTINATION



COUNTRY *	2015	2016	VAR %
LP	7139	6773	-5,1%
LE	6236	5985	-4,0%
LF	3132	2995	-4,4%
EG	2486	2691	8,2%
ED	2225	2066	-7,1%
REST	5463	5849	7,1%

* ORIGIN / DESTINATION



enaire.es 12

17/05/17

Main Airports

MAIN AIRPORT: LPPT
% CORRIDOR: 24,17%

ATS ROUTE	SOUTHBOUND	NORTHBOUND	TOTAL	% PER ROUTE
RANDOM	12	30	42	1%
UN-741	279		279	4%
UN-866		1070	1070	17%
UN-873	2409	2183	4592	72%
UN-857	235	153	388	6%
TOTAL	2935	3436	6371	

MAIN AIRPORT: LEMD
% CORRIDOR: 24,17%

ATS ROUTE	SOUTHBOUND	NORTHBOUND	TOTAL	% PER ROUTE
RANDOM	511	471	982	18%
UN-741	577		577	10%
UN-866		1146	1146	21%
UN-873	1016	1097	2113	38%
UN-857	369	333	702	13%
TOTAL	2473	3047	5520	

MAIN AIRPORT: SBGR
% CORRIDOR: 20,94%

ATS ROUTE	SOUTHBOUND	NORTHBOUND	TOTAL	% PER ROUTE
RANDOM	138	113	251	5%
UN-741	439		439	8%
UN-866		1320	1320	25%
UN-873	1283	1475	2758	52%
UN-857	348	166	514	10%
TOTAL	2208	3074	5282	

enaire.es 13

17/05/17

Main Airports

MAIN AIRPORT: SBGL

% CORRIDOR: 10,19%

ATS ROUTE	SOUTHBOUND	NORTHBOUND	TOTAL	% PER ROUTE
RANDOM	89	60	149	6%
UN-741	184		184	7%
UN-866		646	646	25%
UN-873	329	518	847	32%
UN-857	485	321	806	31%
TOTAL	1087	1545	2632	

MAIN AIRPORT: LFPG

% CORRIDOR: 9,99%

ATS ROUTE	SOUTHBOUND	NORTHBOUND	TOTAL	% PER ROUTE
RANDOM	112	79	191	8%
UN-741	296		296	12%
UN-866		514	514	21%
UN-873	408	745	1153	48%
UN-857	220	45	265	11%
TOTAL	1036	1383	2419	

MAIN AIRPORT: GVBA

% CORRIDOR: 9,18%

ATS ROUTE	SOUTHBOUND	NORTHBOUND	TOTAL	% PER ROUTE
RANDOM				
UN-741	38		38	2%
UN-866	1	56	57	3%
UN-873	1102	468	1570	75%
UN-857	372	68	440	21%
TOTAL	1513	592	2105	

enaire.es

14

17/05/17

Main Airports

MAIN AIRPORT: GVNP

% CORRIDOR: 7,99%

ATS ROUTE	SOUTHBOUND	NORTHBOUND	TOTAL	%PER ROUTE
RANDOM				0%
UN741	50	0	50	3%
UN866	0	5	5	0%
UN873	687	715	1402	86%
UN857	160	13	173	11%
TOTAL	897	733	1630	

MAIN AIRPORT: EDDF

% CORRIDOR: 6,18%

ATS ROUTE	SOUTHBOUND	NORTHBOUND	TOTAL	%PER ROUTE
RANDOM	92	63	155	11%
UN741	148	0	148	10%
UN866	0	227	227	16%
UN873	273	296	569	40%
UN857	196	120	316	22%
TOTAL	709	706	1415	

enaire.es

15

17/05/17

Main CityPairs

CITY PAIR	TOTAL	% TOTAL
SBGR <-> LEMD	1561	5,92%
SAEZ <-> LEMD	1475	5,60%
GVNP <-> LPPT	1249	4,74%
GVAC <-> LPPT	1002	3,80%
SBGR <-> LFPG	815	3,09%
SBGR <-> LPPT	733	2,78%
SBGL <-> LFPG	592	2,25%
SBGL <-> LPPT	588	2,23%
SUMU <-> LEMD	576	2,19%
SLVR <-> LEMD	520	1,97%
GVAC <-> EHAM	491	1,86%
SBGR <-> EDDF	482	1,83%
SBRF <-> LPPT	450	1,71%
SBGL <-> LEMD	431	1,64%
GVSV <-> LPPT	396	1,50%
SBSV <-> LPPT	378	1,43%
GVAC <-> GCLP	370	1,40%
SBGR <-> EGLL	360	1,37%
SBGL <-> EDDF	348	1,32%
GVAC <-> EGKK	346	1,31%
REST	13196	50,06%

enaire.es

16

17/05/17

Evolution of AO's

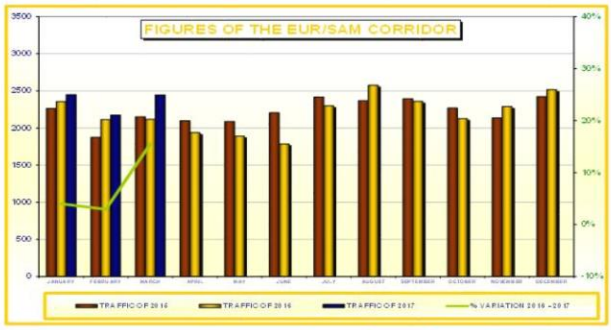
AIRCRAFT OPERATOR	2015	2016	VARIATION
TAP	5963	5463	-8,4%
IBE	3470	2682	-22,7%
AFR	2009	1917	-4,6%
AEA	1076	1684	56,5%
TOM	1030	1338	29,9%
DLH	983	924	-6,0%
TCV	1111	887	-20,2%
BAW	842	851	1,1%
TAM	1479	813	-45,0%
TUI	717	671	-6,4%
REST	8001	9129	14,1%

enaire.es

17

17/05/17

Traffic evolution in 2017



MONTH	SOUTHBOUND		NORTHBOUND		TOTAL TRAFFIC IN THE CORRIDOR						% VARIATION	% VARIATION
	2016	2017	2016	2017	2015	DAILY	2016	DAILY	2017	DAILY	2015 - 2016	2016 - 2017
JANUARY	1188	1098	1167	1351	2264	73	2355	76	2449	79	4%	4%
FEBRUARY	918	1012	1195	1163	1874	67	2113	73	2175	78	13%	3%
MARCH	908	1073	1209	1373	2151	69	2117	68	2446	79	-2%	16%
APRIL	916		1021		2099	70	1937	65			-8%	
MAY	790		1101		2086	67	1891	61			-9%	
JUNE	852		935		2205	74	1787	62			-19%	
JULY	1139		1159		2415	78	2298	74			-5%	
AUGUST	1217		1358		2368	76	2575	83			9%	
SEPTEMBER	1104		1254		2293	80	2358	79			-1%	
OCTOBER	1013		1114		2269	73	2127	69			-6%	
NOVEMBER	969		1319		2134	71	2288	76			7%	
DECEMBER	1144		1368		2423	78	2513	81			4%	

enaire.es

19