

Environmental Bulletin of Samos Airport “Aristarchos of Samos” (SMI)

Reference year 2023



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Fraport Regional Airports of Greece B.S.A.



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1. Introduction

1.1 Location

“Aristarchos of Samos” airport of Samos has been operating since 1963 and is located at 14 km from the town of Samos (Vathy) and at approximately 3km from the town of Pythagoreio. The airport is located to the south side of the island, near the settlement Potokaki.

1.2 Administration

The airport administratively belongs to the Municipal Communities Chora and Pythagoreio of the Municipal Unit Pythagoreio of the Municipality of Samos of the homonym Regional Unit, of the Region of North Aegean.

1.3 Environmental licensing

Approved Environmental Terms

E.T. Decision Reference number	106454/14.03.2000
	131852/27.10.2010
	3704/12.02.2018
E.T. Amendment Decision Reference Number	24437/1573/14.03.2022
	74752/5077/18.07.2022

1.4 Airport Basic Data

Airport name IATA / ICAO	SMI / LGSM
Airport location – Airport Reference Point (ARP)	Latitude: 37° 41' 21" N Longitude: 26° 54' 44" E
Altitude	5.74 m
Number of runways	1
Operation hours (summer)	05:15 – 21:15
Operation hours (winter)	7:30 – 18:30



Runways	Length/Width	Code			
Runway	2,044m x 45m	09/27			
Full length of parallel taxiway	N/A				
Number of taxiways	3				
Apron capacity	A	B	C	D	E
	-	-	4	4	-



Terminal	
Total area (m ²)	9.473



Other buildings and service/storage areas	
RFF Station (m ²)	1.144



Employees	High season (31.08.2023)	Low season (30.11.2023)
Fraport Greece (FG) employees	29	25
Employees of other companies	323	236



Parking Areas	
Car parking spaces	192
Bus parking spaces	14
Taxi parking spaces	36

1.5 Airport facilities

1.5.1 Fuel Handlers

Number of fuel handler companies

Number of fuel handler companies operating at the Airport	2
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Installations inside the airport

	EKO	GISSCO	HAFCO
Environmental Management System (EMS)	YES	YES	Not operating at the airport

1.5.2 Ground Handlers

Number of ground handler companies

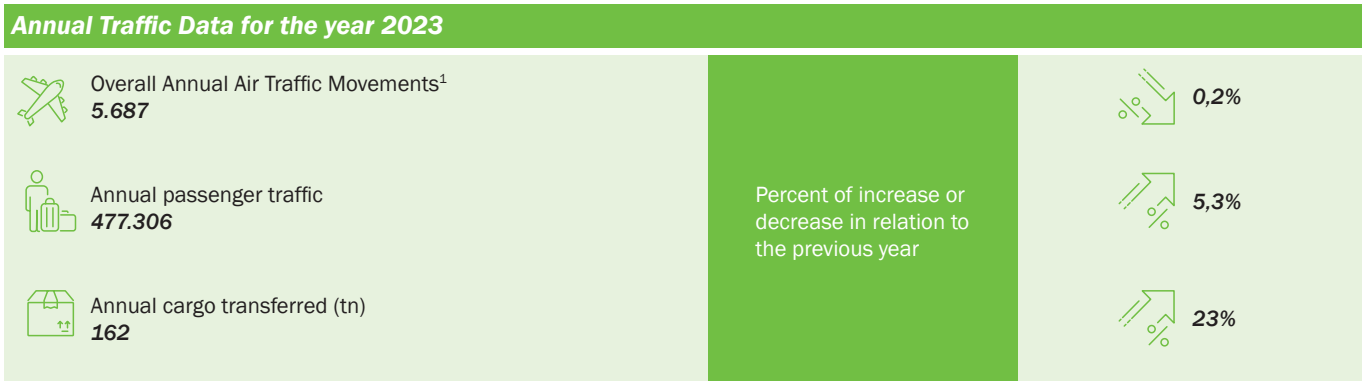
Number of ground handler companies operating at the Airport	3
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Installations inside the airport

	SKYSERV	SWISSPORT	GOLDAIR
Environmental Management System (EMS)	YES	YES	YES

2. Traffic data statistics

2.1 Annual Traffic Data



¹ Military and training flights not included.

Aircraft types

Prevailing aircraft types for domestic flights	
Aircraft type	No. of flights
AT76	1.934
AT45	636
AT72	502
AT75	230
A20N	79
EC35	72
A320	69
AT46	36
EC20	14
B06	12
Other	125
Prevailing aircraft types for international flights	
Aircraft type	No. of flights
B738	1084
A320	371
A20N	249
A319	76
E190	30
C56X	22
E290	18
E550	14
A321	10
GLEX	9
Other	95

2.2 High season traffic data

High season traffic data (June-September)

Highest traffic month	August
Air traffic movements during the month with highest traffic	838
Air traffic movements daily average number during the month with highest traffic	27

2.3 Low season traffic data

Low season traffic data (October-May)

Lowest traffic month	February
Air traffic movements during the month with lowest traffic	218
Air traffic movements daily average number during the month with lowest traffic	7

3. Aircraft noise

3.1 Noise measurements during the reference year

Have noise measurements at the airport's surrounding area been performed during the reference year?

NO

Summary of measurement results

Noise levels are monitored according to the airport's monitoring program and new approved environmental terms. For year 2023, no noise measurements are foreseen.

Noise complaints: 0

3.2 Noise levels calculation based on noise simulation software

Aircraft noise levels calculation based on noise simulation software

NO

Summary of results

According to environmental terms, there is no obligation for noise simulation software this year.

4. Air quality

4.1 Air quality measurements during the reference year

Have air quality measurements at the airport's surrounding area been performed during the reference year?

NO

4.2 Air pollutants emission and dispersion modelling

Calculation of air pollutants concentrations based on an emission and dispersion modelling software

NO

Summary of measurement results

Air quality is monitored according to the airport's monitoring program and new environmental terms. There is no obligation for air quality measurements this year.

5. Waste management

Waste	Collection	Management/Disposal
Recyclables (paper, plastic, metals, glass)	Separate collection by the Municipality of Samos	Disposal at material recovery facility (OEDA Samos) and transshipment for recycling
Residues (Mixed Waste) and Bulky Waste	Collection by the Municipality of Samos	Disposal in landfill (OEDA Samos)

Notes:

1. Regarding the different categories of the MSW (recyclables, mixed waste, bulky waste), the Airport Users handle their waste together with Fraport Greece B (central management).

2. Regarding the “alternative management’ waste categories (Waste lubricant oil WLO, WEEE, etc.):

i. Waste Lubricant Oil (WLO): Collection and management by authorized collector “CYTOP S.A.”

ii. Waste Electrical & Electronic Equipment (WEEE): Collection and management by alternative management system “Appliances Recycling S.A.”

iii. Accumulators: Collection and management by alternative management system “Re-Battery S.A.”

iv. Small batteries: Collection and management by alternative management system “AFIS S.A.”

v. Used tires: Collection and management by alternative management system “ECOELASTIKA S.A.”

3. The total quantities of the hazardous waste further to the above-mentioned and produced at the airport, are managed by licensed private companies which have a contract with Fraport Greece B, after a Tender process according to the provisions of the legislation in force.

4. In the year 2023, Fraport Greece B managed a total of 3.87 tons of Hazardous waste (FG A 2.8 tn, third parties 1.07 tn).

5. The total quantities of the produced waste by category resulting from all activities of the airport, the collectors and final recipients, are recorded by Fraport Greece B and submitted in the Electronic Waste Registry of the Ministry for Environment and Energy via the Annual Waste Producer Report according to the provisions of the legislation in force.

6. Ecosystem around the airport

6.1 Flora – Fauna



Flora

Are there protected zones of vegetation/habitats in the broader airport area?	YES
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(if YES) Short description: Samos Airport "Aristarchos of Samos" is near to the Natura 2000 site:
• GR4120001 Samos Paralia Alyki (Area: 307.07ha)



Fauna

Are there protected species of fauna/birds in the broader airport area?	YES
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(if YES) Short description: Samos Airport "Aristarchos of Samos" is close to the Important Bird Area GR146: Psili Ammos lagoon (Area:182.93ha).

The protected bird species that have been observed at Samos airport since April 2017 are presented below:

Black-crowned night heron (*Nycticorax nycticorax*), Black stork (*Ciconia nigra*), Eurasian bittern (*Botaurus stellaris*), Eurasian curlew (*Numenius arquata*), Eurasian skylark (*Alauda arvensis*), European roller (*Coracias garrulous*), European shag (*Phalacrocorax aristotelis*), European turtle-dove (*Streptopelia turtur*), Garganey (*Anas querquedula*), Glossy ibis (*Plegadis falcinellus*), Great egret (*Casmerodius albus*), Lesser grey shrike (*Lanius minor*), Marsh harrier (*Circus aeruginosus*), Montagu's harrier (*Circus pygargus*), Pallid harrier (*Circus macrourus*), Purple heron (*Ardea purpurea*), Ruddy shelduck (*Tadorna ferruginea*), Short-toed snake eagle (*Circaetus gallicus*), Spur-winged lapwing (*Vanellus spinosus*), Squacco heron (*Ardeola ralloides*)

Other protected animal species observed at Samos airport: Golden Jackal (*Canis aureus*).

7. Wildlife hazard management

Wildlife strikes and wildlife hazard management measures

Wildlife species that suffered a strike	Strikes (%)
Small passerines	50%
Gulls	25%
Corvids	25%

Wildlife strike risk mitigation measures

The presence and behavior of wildlife species at Samos airport is monitored in regular intervals, daily, from dawn to dusk. Some of the wildlife control methods applied at Samos airport are: distress calls (bioacoustics), digital sounds, anti-bird laser, etc. Preventive long-term actions that are mainly related to habitat management measures (e.g. grass cutting, water body management) are also taken to further reduce the presence of species constituting a risk to flight safety. In addition, a NOTAM is published and regularly updated.

8. Cultural heritage

Have new cultural heritage properties been discovered during the reporting period?

NO

9. Resources consumption

9.1 Energy consumption

Energy consumption (monthly electric energy consumption, in Kwh)

Total annual electric energy consumption (in Kwh)	1.378.578,54*
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*Third parties' consumption is excluded

9.2 Fuel consumption

Fuel consumption

Number of FG vehicles at the airport	12
	Diesel (lt) 5.699,21
Total annual fuel consumption	Unleaded gasoline (lt) 3.152,58

9.3 Heating oil or natural gas consumption

Heating oil or natural gas consumption

Total annual heating oil consumption (lt)	-*
Total annual heating natural gas consumption (m ³)	N/A

*Heating and air conditioning is performed via heat pumps

9.4 Fuel consumption for generator

Fuel consumption

Total annual consumption (lt)	2.925,43
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9.5 Water consumption

Water consumption

Total annual consumption (m ³)	-
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No available data from the Municipality of Samos.

10. Greenhouse gas emissions & carbon footprint



Greenhouse gas emissions that were included in the carbon footprint calculation are the CO₂, CH₄ & N₂O emissions included in scope 1 & 2 of the GHG protocol:

- Scope 1: Direct GHG emissions that occur from sources that are owned and/or controlled by the airport,
- Scope 2: Indirect GHG emissions from the generation of purchased electricity, steam, heat or cooling consumed by the airport.

Source Flows	Total CO ₂ e (t) Emissions (t)
	2023
Direct emissions form heating fuel (scope 1)	0,0
Direct emissions from fuel used for fleet vehicles (scope 1)	22,7
Direct emissions from fuel used for generators (scope 1)	7,7
Indirect emissions from electricity consumption (scope 2)	736,3
Total (t)	766,7
Kg CO₂e /passenger	1,61

Notes

Fraport Greece B is committed to the monitoring, management and reduction of its airports carbon footprint. In order for this target to be achieved:

- Direct and indirect carbon emissions from all the emission sources in the airports' boundaries are calculated and reported, based on the GHG Protocol (scope 1 & 2)
- The airport is certified according to ACA (Airport Carbon Accreditation), Level-1

11. Electromagnetic radiation

The measurements were carried out at 15 different points around the antenna array located at the airport on 22.11.2023.

<i>Measurement point</i>	<i>Amperage E (V/m)</i>	<i>Power Density (W/m²)</i>
1	1,66E+00	7,29E-03
2	9,16E-01	2,23E-03
3	9,87E-01	2,58E-03
4	2,41E-01	1,54E-04
5	2,80E-01	2,08E-04
6	1,56E-01	6,48E-05
7	2,19E-01	1,27E-04
8	1,46E+00	5,68E-03
9	1,76E+00	8,18E-03
10	1,16E+00	3,56E-03
11	1,41E-01	5,25E-05
12	1,50E-01	6,00E-05
13	1,44E-01	5,53E-05
14	1,96E-01	1,02E-04
15	2,79E-01	2,06E-04

Notes

At this measurement campaign, no exceedances were found. The defined limits of exposure to electromagnetic radiation, are respected, as they are determined by the relevant legislation.

12. Human consumption water monitoring program



Human consumption water quality

Water supply (public water network or airport's boreholes)	Municipality of Samos network
Is sampling of the airport's water network performed?	YES
(if YES) Sampling frequency	Quarterly

Summary of results

The results of the microbiological and chemical analyses show that the parameters analyzed as regards the airport's water network are not within the legislative limits defined by the Ministerial Decision Δ1 (δ)/ΓΠ οικ. 27829/2023 (ΦΕΚ 3525/Β` 25.5.2023) regarding the quality of human consumption water, as there are occasional elevated concentrations of Arsenic (As).

13. Rainwater

Rainwater (collection, treatment disposal and recipient)

Area	Collection/treatment/disposal	[YES/NO]
Apron and manoeuvring area	Collected in drainage ditches leading to the sea	YES
Other runoffs (runway etc.)	Collected in drainage ditches leading to the sea	YES
Treatment of rainwater by oil-separator		NO

Rainwater quality

Is sampling of the airport's rainwater performed?	YES
(if YES) Sampling frequency:	Twice a year
Parameters analyzed: pH, conductivity, TSS, DO, NO ₃ , NO ₂ , Oil & grease, BOD, COD, Total Petroleum Hydrocarbons (TPH), PAHs, BTEX, Heavy metals, Detergents	

Summary of results

Surface rainwater quality is monitored according to the airport's monitoring program. Due to the absence of designated recipients and relevant national quality limits for surface rainwater, the Environmental Health & Safety Guidelines of the International Finance Corporation (IFC) are adopted. For the year 2023, the monitoring program was performed with one set of sampling. One of the two sampling points showcase elevated oils & grease. The phenomenon is under investigation. Also, presence of hydrocarbons (C₁₀-C₄₀) (µg/l) and pathogens is recorded, which will be further investigated.

14. Groundwater and/or soil and/or soil gas monitoring



Groundwater and/or soil and/or soil gas quality

Is sampling of the airport's groundwater and/or soil and/or soil gas performed?

YES

(if YES) Sampling frequency:

Annual

Parameters analyzed: Groundwater: TPH, BTEX, MTBE (groundwater) and Volatile hydrocarbons, aliphatic, aromatic and chlorinated (soil gas)

Summary of results

Groundwater monitoring within airport boundary - Fraport Greece

Groundwater quality is monitored according to the airport's monitoring program. Groundwater monitoring for 2023 was performed. The results show no exceedances. However, in one of the sampling points, there is presence of hydrocarbons (TPH), which will be further investigated.

Groundwater and/or soil and/or soil gas monitoring at fuel farms– Fuel Handlers

According to the approved environmental terms, monitoring of groundwater from the Fuel Handlers for reference year 2023 was performed by EKO and GISSCO. The results show no exceedances.

15. Sewage treatment and disposal



Sewage

Sewage network to the municipal waste water treatment plant (WWTP)	YES
Autonomous airport's waste water treatment plant (WWTP)	NO

Blue water

Collection and disposal:
Collection in watertight tank and disposal to the municipal sewage network.

Waste water treatment plant description (where applicable)

Description of characteristics and condition of the airport's WWTP including possible problems. Type and frequency of the effluent quality measurements.

Degree of treatment of airport's WWTP	N/A
Treatment method	N/A
Disposal of treated wastewater	N/A
Sludge disposal	N/A
Sampling frequency of WWTP effluent	N/A
Parameters analyzed	N/A
Summary of quality of WWTP effluent	N/A

