

Brochure Airport Services



Company



Gis Design is a well-established company that has over 20 years of experience in supporting airport authorities in matters concerning airfield safety, ensuring compliance with international applicable standards, high-quality certification (ISO 9001:2015) and technological innovation.

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Managing Directors:
Eng. Domenico Lanza
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Experience: Since 2002

Employees: > 50

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The core competencies of Gis Design regard aerodrome and obstacles mapping. The company provides a wide range of specialized services, such as potential air navigation obstacles identification, aerodrome chart type "A" and "B" elaboration, and specific operating procedures preparation using 3D Geographic Information System.

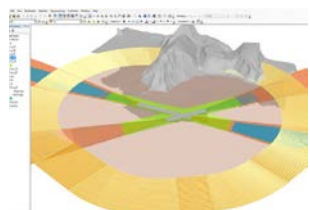
Gis Design has accomplished the census and monitoring activity of air navigation obstacles and has elaborated the constraints map for several of the most important national Italian airports, supporting the airfield managers through the entire procedural process until approval.

Moreover, through the use of 3D Geographic Information System based software, specifically designed by the company, and high efficiency operating procedures, Gis Design is able to satisfy numerous airport safety requirements, according to ICAO, EASA, and applicable international standards.

In addition, the company carries out topographic surveys and provides BIM and Digital Twin digitalization of airport infrastructures, supporting modern airport management with advanced mapping and monitoring solutions.

Last but not least, Gis Design develops tailored software solutions for the aviation industry, such as ALBATROS, which allows not only the management of existing obstacles, but the detection of new ones through 3D analysis performed by the software itself.

Services



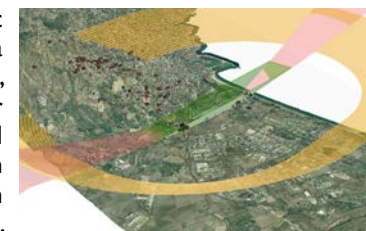
Generation of Obstacle Limitation and Identification Surfaces (OLS and OIS, compliant with ICAO annex 14&15 and EASA CS-ADR-DSN).



Air navigation obstacles census within the areas under the jurisdiction of the airport manager (in compliance with ICAO annex 14&15 and EASA Decision AMC & GM for Aerodromes) and obstacles monographs preparation.



Implementation of the Electronic Terrain and Obstacles Data eTOD, (as per ICAO Annex 15, EASA Decision AMC & GM for Aerodromes and Eurocontrol TOD Data Manual), through the 3D Geographic Information System.



Monitoring obstacles marking and lighting system (Reg. UE 139/2014 Surroundings), even in real-time with fault detection automatic systems.



Services



Aerodrome chart type "A" and "B", constraint and obstacles limitation maps elaboration.



Potential air navigation obstacles identification with high-precision GPS surveys, satellite images, aerial photogrammetry and numerical cartography, LiDAR mapping campaign and DTM and DSM digital models creation.



Monitoring of aerodrome surroundings, as required by Regulation (UE) n. 139/2014 (EASA ADR.OPS.B.075): obstacles and the possibility of induced turbulence; use of hazardous lights; dazzling caused by large and highly reflective surfaces; sources of non-visible radiation; non-aeronautical ground lights nearby an aerodrome, which may endanger the aircrafts' safety, etc.

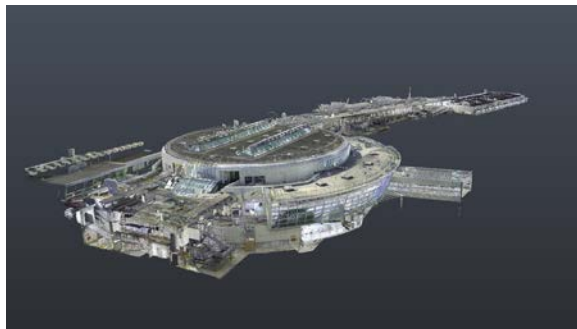


Monitoring Wildlife strike hazard (EASA ADR. OPS.B.020) through the use of satellite images and GIS implementation.





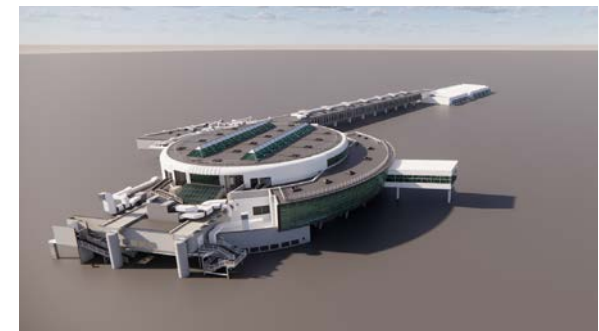
Services



AIRPORT INFRASTRUCTURE SURVEYS

High-precision topographic surveys of airport infrastructures using advanced technologies such as 3D laser scanning, Mobile Mapping, GNSS, drones, and more.

The surveys can cover any airport asset, including runways, aprons, and movement areas, along with associated horizontal and lighting signage, as well as architectural and structural surveys of terminals, control towers, and hangars. The acquired data are processed into BIM and GIS models to support airport design, maintenance, and management.



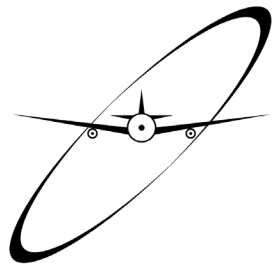
BIM MODELING AND DIGITAL TWIN

We provide BIM digitization and digital twin implementation services for airport infrastructures. High-definition 3D BIM models are created and integrated with data from IoT sensors, GIS systems, and operational platforms to enable real-time monitoring, simulation, and predictive analysis.

The digital twin supports efficient asset management, preventive maintenance, and operational decision-making. We develop interoperable platforms to manage BIM, GIS, and EAM data in a unified environment, ensuring consistency and smart infrastructure governance.



Software



Albatros

Airport Limitation of Objects Altitudes
Topographic Recognition of Obstacle System



Gis Design has recently developed an advanced and innovative monitoring and advising technique which identifies potential air navigation obstacles by using live satellite images.

Particularly, it provides a response system notifying the specialists of the presence of a new territorial element (a tree, a crane, a trellis, a building, etc.) which may represent a potential obstacle.

The methodology, offered to the managers with real-time, monthly, quarterly, biannual, or annual monitoring frequencies, enables the complete fulfillment of the EASA regulations, in relation to the communication and sharing of the data concerning the obstacles.

For such purposes, the company has created and developed the ALBATROS application, an expansion of the GIS (Geographic Information System) software, also working in Open-Source, which allows the management of existing obstacles, in addition to the possibility to identify new ones by means of three-dimensional analysis performed by the software itself.

Gis Design has developed the web version of ALBATROS, with access through specific credentials.



Gis Design has successfully executed more than 30 projects, commissioned by both private and public clients including:

Airports aiming to reach higher safety levels in air navigation and better compliance management with applicable regulations.

Civil Aviation Authorities requiring consultants providing specialistic softwares and training in aviation services.

Civil Engineering Companies looking for a partner with in-depth aviation know-how and expertise.

Clients

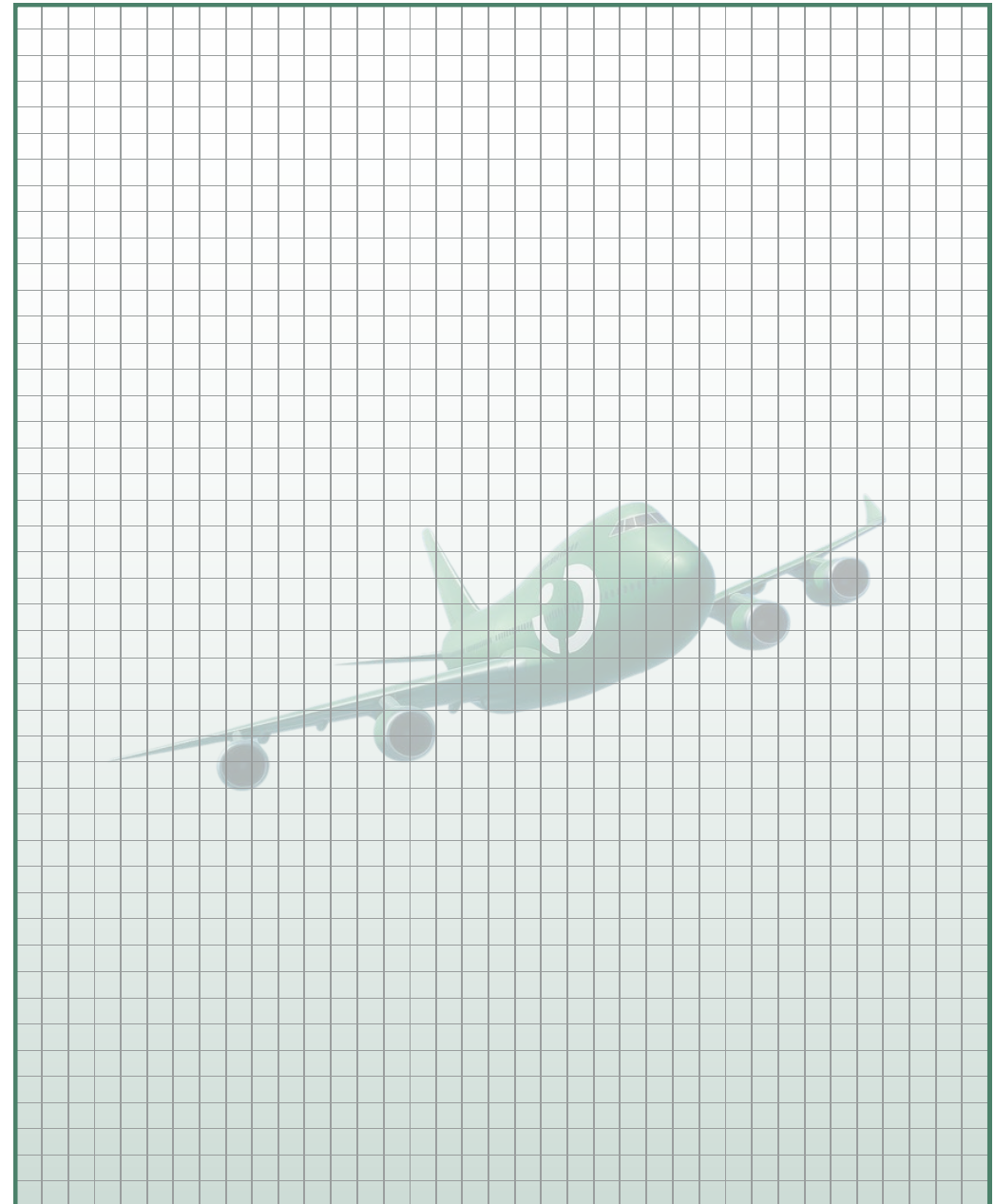
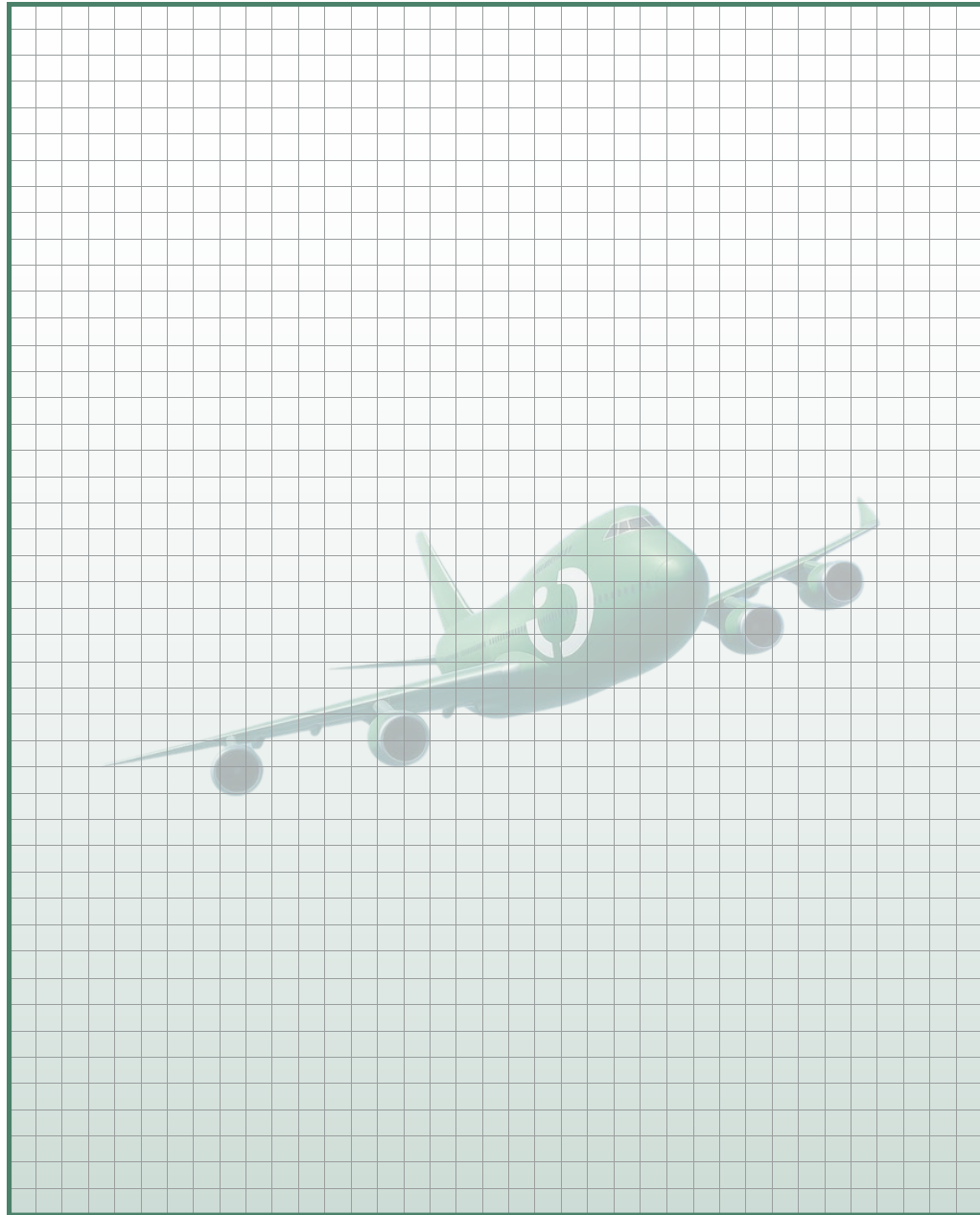
14 Civil Airports

Rome Airport Fiumicino - Ciampino	ADR
Catania Airport	SAC
Palermo Airport	AEROPORTO DI PALERMO GESP
Napoli Airport	AEROPORTO INTERNAZIONALE J.NAPOLI
Rimini Airport	IRMINIUM
Cagliari Airport	Cagliari Airport SOGAER
Genova Airport	AEROPORTO DI GENOVA
Olbia Airport Costa Smeralda	Aeroporto Olbia Costa Smeralda VIA S. ANTONIO
Alghero Airport	AEROPORTO DI ALGERO
Italian Civil Aviation Authority	ENAC
Lampedusa Airport	AEROPORTO DI LAMPEDUSA
Comiso Airport	COMISO
Aeroporto di Lamezia Terme "Sant'Eufemia"	PIAGI
Venezia Airport	VENEZIA

16 Military Airports



NOTES



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