

ACC

AC77/TN4

10000/148/2136

ORIENTATION

NSR-1413 FAC-1

00/148/2136

ORIENTATION STUDY ON AIR
BASES FACILITIES OF N. ITALY

ACC
CONFIDENTIAL

OFFICE OF STRATEGIC SERVICES
BRANCH OF RESEARCH AND ANALYSIS

AFID No	
MR	356

R & A No. 1400.12

ORIENTATION STUDY ON AIR FACILITIES OF NORTH ITALY

Basic information for those using or operating
air facilities of North Italy as a supplementary
form of military or civilian transportation.

24 November 1943

This document contains information affecting
the national defense of the United States within
the meaning of the Espionage Act, 50 USC 31 and 32,
as amended. Its transmission or the revelation of
its contents in any manner to an unauthorized per-
son is prohibited by law.

CONFIDENTIAL

5750

CONFIDENTIAL

TABLE OF CONTENTS

I.	Air facilities of North Italy	1
A.	Airfields	1
B.	Number and Distribution of Airfields.	2
C.	Classification and Equipment.	2
D.	Weather and Other Flight Hazards.	3
II.	Air Transportation.	5
A.	Companies	5
B.	Airline Termini and Intermediate Stops.	7
C.	Post-war Considerations	8
III.	Administration.	10
A.	Ministry of Aeronautics	10
B.	Civil Air Regulations	10
C.	Airport Administration.	11
D.	The R.U.N.A.	12
E.	Weather Bureau.	12
IV.	Bibliography.	13
A.	Airfields	13
B.	Civil Aviation.	14

Map: Airfields of North Italy

CONFIDENTIAL

I. Air Facilities of North Italy

A. Airfields

1. General Considerations. Although internal air transportation was not so well developed in Italy before the war as in other leading countries of Europe, North Italy, with 40 percent of the country's airfields,* is well provided with facilities to handle considerable air traffic in case of need. The country has, in addition, a good supply of skilled personnel - pilots, mechanics, and airport managers - which could be drawn upon to whatever extent was deemed wise by Allied agencies administering transport.

The North Italian fields are of four types:

- a. Military airfields, mostly fighter-plane bases;
- b. Airline termini, of which the industrial north had more than the rest of continental Italy;
- c. Factory airdromes;
- d. Airfields for private flying, owned and subsidized by the government and used principally for civilian flight instruction.

During the war, of course, every airfield was converted to military use; it is believed that those not suitable for at least emergency purposes have been rendered unfit for use by aircraft. Once the need for their wartime functions is reduced, however, many of the airfields can be used for air transport.

* The proportion, however, of important airfields to the total number is greater in South Italy.

CONFIDENTIAL

- 2 -

B. Number and Distribution of Airfields

Of some 123 airfields in North Italy, at least '63 have been developed to a point where they could be used by large transport planes, while the others, though for the most part without facilities, are suitable for take-offs and landings by smaller craft. The greatest concentration of fields is found around Milano and Torino, and another smaller group is located at the head of the Adriatic Sea. The remaining airfields are strung roughly in two lines north and south of the Po River, with a branch line reaching north towards Austria.

There are in addition 22 seaplane stations and 8 seaplane alighting areas located on the lakes and in the Ligurian and Adriatic Seas. The appended map will show that there is no important town in North Italy that is not accessible to either land or seaplanes, and that many cities have more than one airport.

C. Classification and Equipment

All the airfields and seaplane bases that are known or believed to exist are shown on the map accompanying this report. They are classified in the following groups:

1. Principal airdromes (solid red circle): the largest and best-equipped airfields. In addition to hangars, workshops and fuel storage facilities, they generally have some radio installations and some form of night-lighting.

5747

CONFIDENTIAL

- 3 -

2. Secondary airdromes (open red circle): Fields that are smaller or less well-equipped than those in group one.

3. All other airfields (open black circle): Fields of varying size that are believed to have no, or very few, permanent facilities.

4. Seaplane stations (red anchor): Bases with hangars, slipways, cranes, possibly radio and other facilities. At two of these, Fiume and Zara, seaplanes have no special facilities but have access to those of the port.

5. Seaplane alighting areas (black anchor).

Although only three or four of the principal airfields had surfaced runways before the war, quite a number have recently added such equipment, particularly those in locations where weather conditions affect the quality of a landing ground. At fields taken over by the Germans, radio facilities are generally increased and visual beam approach systems often installed. All Italian airfields are accessible by road, and most of them are situated close to railroad lines.

D. Weather and Other Flight Hazards

Except on the Ligurian coast, the airfields of North Italy are subject to weather conditions that seriously limit operations during fall and winter. Fields in the Po Valley are frequently fogbound, and natural fog conditions are intensified by industrial smoke around Milano and Torino. In addition, all of North Italy is subject to very

576

CONFIDENTIAL

- 4 -

heavy rains of brief duration in spring and fall that lead to erratic drainage and run-off conditions.

The mountainous terrain of the northern part of the region constitutes another flight hazard. Since the fields are of necessity located in river valleys, they are often long and narrow, making them difficult of approach.

578

CONFIDENTIAL

- 5 -

II. Air TransportationA. Companies

1. Ala Littoria. Before the war, practically all air transportation in Italy was in the hands of the state-controlled Ala Littoria, with its main office in Rome. A subsidiary company, L.A.T.I. (Linee Aeree Transcontinentali Italiane), was formed in 1939 to take over trans-Atlantic air services, for which preliminary work had been done by Ala Littoria. Few of the services of the airlines were confined to continental Italy; if two or more cities were connected by air, they were generally intermediate stops on an international route. Routes flown by Ala Littoria in 1939 affecting cities in North Italy were the following:

(Rome) - Rimini - Venezia - Trieste - - - - (Prague)*
 Venezia - - - - (Vienna)
 (Rome) - Genova - - - - (Barcelona)
 (Rome) - Bologna
 Genova - (Alghero)
 (Ancona) - Zara - Lussino - Pola - Trieste
 Venezia - Pola - Piumo
 Trieste - Venezia
 Trieste - (Brindisi)
 Milano - Venezia - - - - (Budapest)
 (Rome) - Venezia - - - - (Budapest)
 (Rome) - Venezia - - - - (Berlin)

* A series of dashes indicates non-Italian intermediate stops. Towns in parentheses are outside the area covered by this report.

CONFIDENTIAL

- 6 -

On the above lines, by far the greatest number of passengers and the largest amount of freight were carried on seaplane routes between the east coast of Italy and eastern Adriatic ports.

2. Avio Linee Italiane. The other Italian airline company existing before the war was the private Avio Linee Italiane, owned by the state-controlled Fiat Company. Its operations were on a much smaller scale. Its main offices were in Torino and Milano, and in 1939 it operated the following routes:

Milano - (Roma)
 Venezia - Milano - Torino - (Paris-London)
 Torino - (Roma)
 Torino - Milano - Venezia - - - - (Beograd)
 (Roma) - Milano - - - - (Amsterdam)
 Venezia - Milano - Torino
 (Roma) - Venezia - - - - (Gdynia)
 Milano - Rimini*
 Milano - (Brussels)

5743

The lines are listed in the order of their importance from the viewpoint of passengers and freight carried, and it is interesting that the number of passengers and amount of freight on the Milano - Roma line were more than twice those of any of the other lines.

* Night flights only.

- 7 -

3. Effect of the War on Scheduled Airlines. Soon after Italy's declaration of war on June 10, 1940, the Servizi Aerei Speciali (Special Air Services) was formed. This vested control of all air transport in the Regia Aeronautica (Italian Air Force), including the operations of the civil airline companies.

3. Airline Termini and Intermediate Stops

It will have been seen from the summary of airline routes that only a few of the airfields and seaplane stations in North Italy were used for scheduled flight operations. Flights originated only in Milano, Torino, Venezia, Trieste, and Genova, and of the total of twelve ports used by the airlines, seven were seaplane stations. Figures available for activity at nine of these ports during 1939 indicate their relative importance:

Airport	Aircraft arriving and departing	Passengers carried	Post and newspapers (metric tons)	Freight (metric tons)
Milano	2,327	24,002	51.2	74.1
Torino	1,767	91,052**	11.1	32.5
Venezia/S. Nicolo	2,054	17,325	54.3	31.3
<u>Seaplane Station</u>				
Genoa	511	2,963	.2	.7
Genova	935	2,402	4.1	9.7
Aola	2,552	3,615	1.457	22.0
Trieste	1,05	3,535	19.5	36.4
Venezia/S. Andrea	1,26	5,960	.5	9.0
Sara	1,192	3,555	26.1	20.4

* Excluding passengers' luggage

** This figure, from an official source, is obviously inaccurate. It may be that the first two figures were transposed, since 19,000 odd passengers would be a suitable figure, taking all the factors into consideration.

CONFIDENTIAL

- 8 -

C. Post-war Considerations

It is evident from the foregoing paragraphs that traffic on the airlines before the war was not nearly great enough to make the lines self-sustaining, and, in fact, they were heavily subsidized. It is also clear that it will be a long time before they regain their pre-war status. But they may be useful to the Allies in providing equipment and personnel for more or less unscheduled operations to supplement shortages in other forms of transportation; operations that may, at any rate in the number of towns served, greatly exceed ante-bellum development.

Italy, like many other European countries, must import most, if not all, of its petroleum products. Refineries at Bari and Livorno are equipped to produce aviation gasoline and may be useful to the Allies if they are restored to production.

In addition to numerous plants for the manufacture of aircraft constituent materials and accessories, there are aircraft factories in the following towns of North

571

CONFIDENTIAL

- 9 -

Italy: Milano, Torino, Sesto Calende, Gallarate, Vizzola Ticino, Varese, Genova, Bergamo, Reggio Emilia, Trento and Monfalcone-Trieste. Engine plants are located at Milano, Torino, Genova and Reggio Emilia.

It should be remembered, however, that such plants as these are primary air objectives, and it is likely that many or all of them will have been badly damaged.

CONFIDENTIAL

- 10 -

III AdministrationA. Ministry of Aeronautics

All aviation activities in Italy have long been highly centralized under the control of the Ministero dell'Aeronautica (Minister of Aeronautics), a cabinet post held during the last several years by Mussolini himself. The activities of this ministry were divided between the Regia Aeronautica (Italian Air Force) and civilian aviation. The latter was under the guidance of the Direzione Generale aviazione civile e traffico aereo (Directorate-General of civil aviation and aerial traffic).

B. Civil Air Regulations

Civil aviation is regulated by the statute of August 20, 1923 modified by the statute of January 31, 1926 and subsequent amendments. These laws, similar even in detail to the regulations of the Civil Aeronautics Authority in the United States, cover the licensing of airports, aircraft, pilots, mechanics, and airport and airline personnel as well as the regulation of traffic in the air. The following excerpts cover fundamental principles:

1. The navigation of aircraft of Italian nationality is free, but subject to the control of the Air Ministry and to the observance of limits and conditions imposed by aeronautical and connected legislation...In case of military or public necessity, or in the interest of public safety, flight may be prohibited over any part or all of the State territory.

5729

CONFIDENTIAL

- 11 -

2. An Italian National Aeronautical Register shall contain the identification, ownership and specifications of all aircraft belonging to Italian citizens or clubs or corporations....The Register shall be published, and may be consulted by any interested party....All changes in ownership or specifications of aircraft shall be transcribed in the Register.

3. No one can build or prepare an airport or any facility adapted to aerial navigation without previous authorization by the Ministry of Aeronautics....Every airport and every facility so constructed remains under the control of the competent authority in whose jurisdiction it is found.... All State airports and all facilities necessary to aerial navigation are public works subject to law....All private airports may, under certain circumstances, be declared public works.

4. Voluntary landings and take-offs are forbidden except at an airport.

C. Airport Administration

Airports in Italy before the war were classified as State or private, and military or civil. Most, if not all, of the private airports were built for testing purposes by aircraft manufacturers; they were subject to civil air regulations and to inspections by the commander of the nearest military airport. All military airports, some of which were open to civil traffic, were directed by a military

CONFIDENTIAL

- 12 -

commander; some of the exclusively civil airports had civilian directors. But by a decree of December 27, 1940, all remaining civilian personnel in the Air Ministry and subordinate services were given military rank. Emergency landing grounds (campi di fortuna) were put in charge of non-commissioned officers, and airports were to be directed by lieutenants, captains or majors, depending on their importance.

On Italy's declaration of war, all civil flying was suspended with the exception of the restricted operations allowed to the airline companies.

D. The R.U.N.A.

The Reale unione nazionale aeronautica (Royal National Aeronautical Union) unites under one federation all the associations and institutions in Italy connected with aviation in its various forms. It included all non-military schools of flight instruction. Owing to its efforts, the number of civilian licenses granted in a single year by the Ministry of Aeronautics increased steadily, from 477 in 1935 to 1722 in 1939.

E. Weather Bureau

Meteorological research and weather information services are a function of the Air Ministry, and regional meteorological offices of North Italy were located before the war at Milano/Linate and Venezia/S. Nicolo airfields.

5737

CONFIDENTIAL

- 13 -

IV Bibliography

A. Airfields

1. JICA Reports. Allied personnel in the theater of operations will presumably have access to the files of the Joint Intelligence Committee in Africa, which issues reports based on photographs by the Northwest African Photo Reconnaissance Wing, and reports from the Intelligence Unit of Northwest African Air Force Headquarters, together with the latter's Target Information Sheets. Such material is uncollected, giving up-to-date information on conditions and improvements at individual airfields.

2. British Air Ministry Reports. The most complete and detailed material on Italian airfields is to be found in the A.I.2,3 List of Aerodromes, Landing Grounds and Seaplane Bases, amended by subsequent Airfield Development Reports. The latest complete list known to this office was published March 20, 1943, but it is believed that a new edition will appear shortly. The list contains not only detailed textual information but also location maps and diagrams based on photographs (not included) of all the more important fields.

Most of the photographs on which the list described above is based are put out by A.I.3c (1) as British Target Folders, together with more recent photographs and additional textual information as they become available. Each folder

573

CONFIDENTIAL

- 14 -

covers a single locality, although occasionally there is more than one field within its compass.

B. Civil Aviation

The best material for Allied supervising agents in the field of civil aviation will be found in official publications of the Air Ministry. The Giornale ufficiale del Ministero dell'Aeronautico is published tri-monthly, while the bollettino dell'aviazione civile e del traffico aereo appears monthly. Registers of aircraft, pilots and other licensed aeronautical personnel, including mechanics, are kept in the ministry at Roma.

The majority of the aeronautical publications in Italy were for several years published by a private company closely associated with the Air Ministry known as the Societa anonima editoriale aeronautica. This company was dissolved in June, 1941, and the liaison made even closer by placing these publications directly under an Ufficio editoriale aeronautico. Those that may prove helpful include:

Lo vie dell'aria, weekly, official organ of the R.E.M.A.

L'Ala d'Italia, bi-monthly.

Rivista aeronautica, monthly

L'Aerotecnica, monthly.

Rivista de meteorologia aeronautica, quarterly.

Rivista di diritto aeronautica, quarterly, (aeronautical law review)

5720

1207