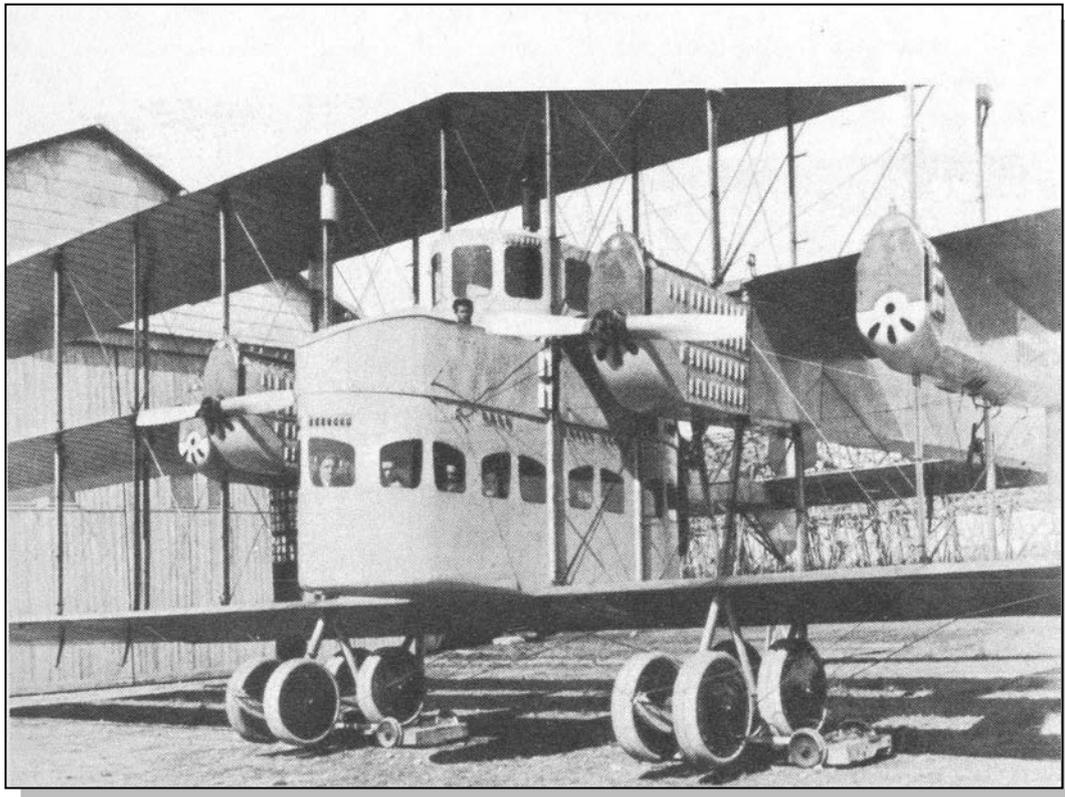


# The Civil Transport Aircraft of Caproni (1918-1939)



For: [www.europeanairlines.no](http://www.europeanairlines.no)

Rob Mulder



# The civil transport aircraft of Caproni (1918-1939)

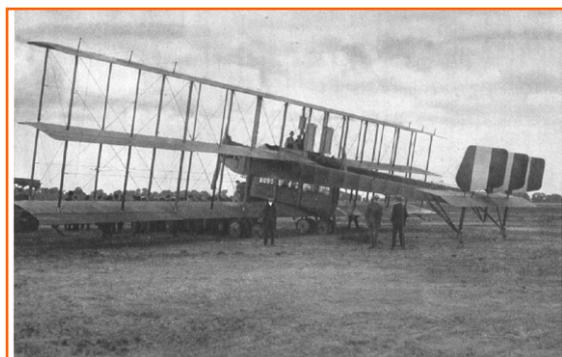
For: [www.europeanairlines.no](http://www.europeanairlines.no)

By: Rob Mulder

During the years preceding the Second World War, Caproni produced a number of aircraft for civilian use. It started with conversion of military types, but soon pure civilian airliners were designed. Not all were successful. This article will focus on some of these civilian designs.

The Società Italiana Caproni was formed by Count Gianni Caproni and started up its business in 1908 (In 2008 celebrating 100 years ago). During the Great War it belonged together with FIAT to the most important aircraft manufacturers in Italy. During the Great War it constructed some of the most interesting biplane and triplane bombers that were even used abroad by the other Allied countries. Most notorious are the series of bomber of the Caproni Ca 3.

Caproni Ca 48 (\*1919): Caproni started after the Armistice the development of civilian conversions of its bombers. Between the twin booms a huge cabin was constructed capable of housing seventeen passengers. They had to sit on long benches that were placed alongside the wall of the cabin. Large windows offered a great view. The entrance



was in the nose of the nacelle and a further six passengers were housed on top of the cabin, thus probably making it one of the first two-deck civilian airliner. On top sat also the pilots. It was powered by three 400hp Liberty 12-N-engines – two mounted in the middle wing and a third on the rear of the fuselage. The undercarriage consisted out of two sets of wheels with each four wheels mounted on them. The twin booms carried an elevator and three fins.

One of these giant visited the [First Aviation Exhibition Amsterdam – ELTA](#) (August – September 1919) and enjoyed immense popularity. The Dutch Prince Consort, H R Prince Hendrik, visited the impressive aircraft. It is very unlikely it ever entered airline service and was possibly only used for promotional work.

## Specifications:

Span 29.90m

Length 13.20m

Height 6.30m,

Wing area: 200m<sup>2</sup>

Engines: Three 400hp Liberty 12-N

Crew: 2

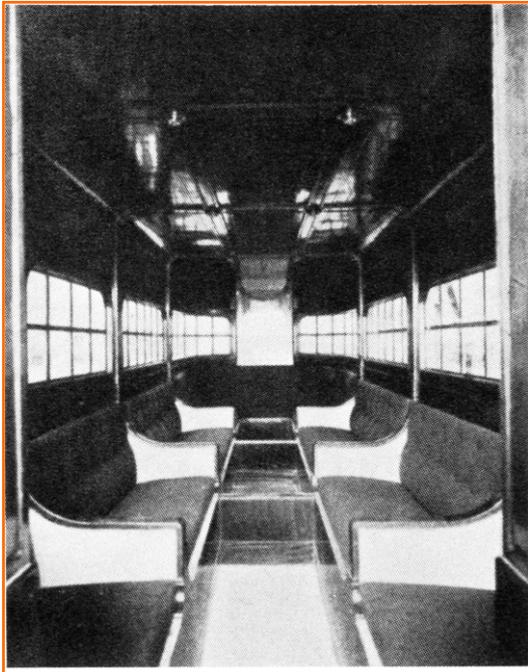
Passengers: 23



Empty weight 4,000kg

Loaded weight 7,200kg

Maximum speed 140kmh



*The main cabin of the Caproni Ca.48. (Illustration from Gli Aeroplani Caproni)*

**Caproni Ca 450 (\*1919):** It was a classic Caproni-design dating from 1916 and the successor of the Ca 2. Compared with the Ca 2 it had installed two of the three engines on struts on the wings with a third engine mounted aft of the fuselage with a pusher airscrew. Caproni designated it as Ca 450, while the Italian Army called it Ca 3. The designation Ca 450 comes from the fact that it had three 150hp Isotta-Fraschini engines. It was a biplane of wooden construction with fabric covering. The civilian version could carry a crew of two and six passengers all in open cockpit and nacelle. It had a triple fin and the undercarriage consisted out of two

strut-braced wheels, while the third wheel was mounted under the nose of the aircraft to prevent it from tipping on its nose during a rough landing. One of the Ca 450s attended the [First Aviation Exhibition Amsterdam – ELTA](#) (August – September 1919). It still carried a military serial: Ca.23170, but later several Ca 450s were registered in the civilian register of Italy.

Specifications:

Span: 22.74m

Length: 11.05m

Height: 3.84m

Wing area:

Engines: Three 150hp Isotta-Fraschini V.4B

Crew: 2

Passengers: 6

Empty weight: 2,400kg

Loaded weight: 3,900kg

Maximum speed: 130kmh

**Caproni Ca 49 (\*1919):** The seaplane was designed for the transportation of passengers in an enclosed cabin. The triplane had four engines, but never came from the drawing board. Three of the engines faced forward, one backwards. Its technical specifications were given as followed:

Specifications:

Span: 34.50m

Length: 13.00m

Height: 7.80m

Wing area: 250m<sup>2</sup>



**Engines: Four 300-375hp engines**

**Crew: 2**

**Passengers:**

**Empty weight:**

**Loaded weight:**

**Maximum speed: 140kmh**

*Caproni Ca 49.*

**Caproni Ca 54 (\*1919):** Triplane converted from the Caproni Ca 53. A cabin for passengers was simply added in which just four passengers could be carried.

**Caproni Ca. 55 (\*1919-20):** A diversion from the Caproni Ca 54, but fitted with floats.

**Specifications:**

**Span 13.25m**

**Length 9.05m**

**Height 4.20m**

**Wing area 65m<sup>2</sup>**

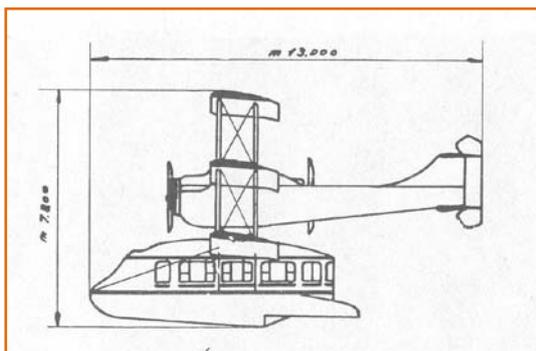
**Engines: two 450 – 500hp**

**Empty weight 1,700kg**

**Loaded weight 2,500kg**

**Maximum speed 175 – 190kmh**

**Caproni Ca 56 (\*1919):** Diverted from the Caproni Ca 32, a twin-engine bomber from the Great War. Two 300hp Fiat A.10 engines powered the biplane. The cabin could house six passengers and was placed well in front of



the wings.

**Specifications:**

**Span: 22.20m**

**Length: 11.05m**

**Height: 3.85m**

**Wing area: 100m<sup>2</sup>**

**Engines: Two engines of 300hp**

**Crew: 2**

**Passengers: 6**

**Empty weight: 2,100kg**

**Loaded weight: 3,500kg**

**Maximum speed: 120kmh**

**Caproni Ca 57 (\*1919):** The next of the giant Capronis was the Ca 57. The Ca 5 was the basic model for this civilian post-war conversion and it was based on the experience gained with the Ca 3. In 1917 the Caproni Ca 5 made its first flight. The three-engine biplane was again of a wooden construction and fabric-covered. A large passenger cabin, including toilet and luggage compartment, had replaced the central nacelle. The empty weight was reduced, to allow seating for eight passengers and a two-member crew. The Caproni Ca 57 made in August – September 1919 an appearance on the [First Aviation Exhibition Amsterdam – ELTA](#) (the Netherlands). It was placed on the stand of the Italian section. Unfortunately its arrival was marked with problems on the sandy underground. But there was no damage to the aircraft and it could be towed and pulled to safety.

**Specification:**

**Span:** 23.40m

**Length:** 12.60m

**Height:** 4.48m

**Wing area:** 150m<sup>2</sup>

**Engines:** Three-200hp Isotta-Fraschini V.6

**Crew:** 2

**Passengers:** 8

**Empty weight:** 3,300kg

**Loaded weight:** 5,000kg

**Maximum speed:** 140kmh.

*The picture below shows the Caproni Ca 57, Ca.12042, at the [ELTA](#) in Amsterdam. In front in the middle we recognize Capitano Francesco Brack Papa, who flew another Italian wonder child: The Fiat B.R.*



*Another picture of the Caproni Ca 57 at the [ELTA](#) in Amsterdam. This was taken on the Italian section in one of the halls.*



**Caproni Ca 58 and Ca 59:** The Caproni Ca 58 and Ca 59 were basically the same aircraft.

It was modified from the impressive triplane Ca 48, but was now powered by either Fiat A.14 or Isotta-Fraschini V.6 engines. The cabin was a little bit smaller and instead of benches proper seats were installed in the narrow cabin. Beside the new lay out the number of passengers possible to carry was no less than thirty divided over two decks and included a bar, a toilet and a luggage hold. It had no less than five engines with a total horsepower of 2,000hp. The crew sat in the open air in front of the upper cabin.

The Caproni Ca 59 was intended to be an export version of the Ca 58, but none of the aircraft were ever exported.

**Specifications:**

**Span** 22.20m

**Length** 11.05m

**Height** 3.85m

**Wing area** 100m<sup>2</sup>

**Engines:** five 300 – 400hp

**Empty weight** 2,100kg

**Loaded weight** 3,100kg

**Maximum speed** 120kmh



Caproni Ca 60 (\*1920-21): This is a story of itself. We could have written a separate article about this aircraft. The nine wing flying boat was constructed for service across the Mediterranean Sea and the Atlantic Ocean. Its capacity was said to be no less than 100 passengers and it was powered by no less than eight 400hp Liberty engines. Basically Caproni mounted three bombers on a large fuselage and for better stability mounted two pontoons on each side. The cabin was described as a grand 'scafo-cabina'. But it never flew with that many people. On 4 March 1921 the aircraft took finally to the sky over the Lake Maggiore, but only reached a height of 60 feet before it crashed and was destroyed beyond repair. It sank to the bottom of the lake, killing two crew members.

*Below: Joel Christy built a model of the aircraft and has reported about the model in a nice article. Click on the picture and you will be directed to his article. Great work, Joel!*



We also found a movie clip of the aircraft on YouTube: [Caproni Ca 60](#)

Specifications (of the original!):

Span 30.00m

Length 23.45m

Height 9.15m

Wing area 750m<sup>2</sup>

Engines: eight 400hp

Empty weight 14,000kg

Loaded weight 26,000kg

Maximum speed 130kmh

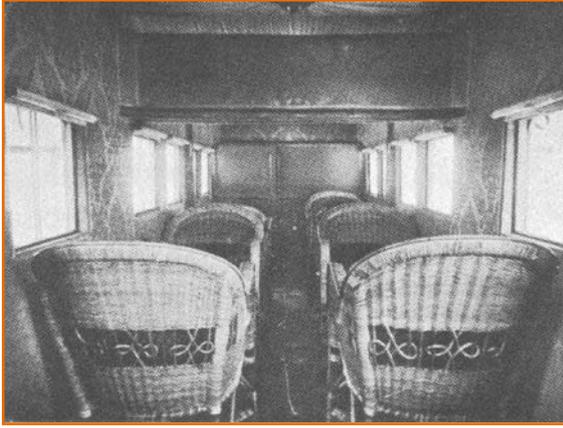
Caproni Ca 73 (\*1924): This was a civilian version of the military bomber with the same designation. It was designed in 1924 and was an unequal-span biplane powered by two 500hp Isotta-Fraschini Asso water-cooled engines. The cabin could house ten passengers, mail and luggage. There was another civilian version: the Ca 73bis C with two 450hp Lorraine-Dietrich engines.

Specifications:

	Ca 73	Ca 73bis C
Span	25.00m	25.00m
Length	15.10m	15.10m
Height	5.60m	5.60m
Wing area	143m <sup>2</sup>	143 m <sup>2</sup>
Engines:	2/500hp	2/450hp
Empty weight	3,200kg	3,200kg
Loaded weight	5,000kg	5,200kg
Max speed	175kmh	180kmh



*The prototype of the Caproni Ca 73.*

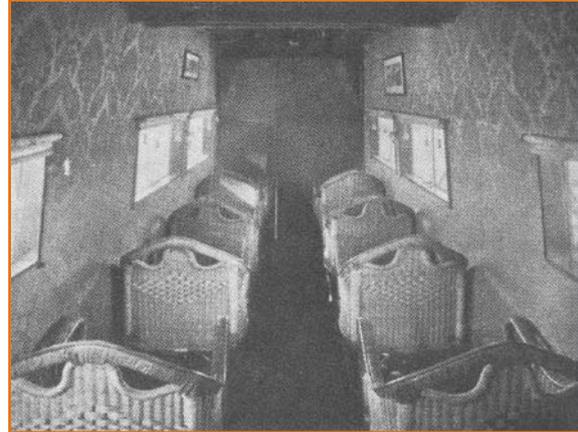


*The cabin of the Caproni Ca 73 with its square windows.*

**Caproni Ca 82 C:** Diverted from the Ca 73 it was an aircraft capable of carrying ten passengers in a cosy cabin and a crew of two in front of the cabin. The biplane had unequal wings (a feature of Caproni) and had two engine mounted in tandem. At the end of the cabin was even a toilet for the passengers. The entrance was placed under the wing and was not too big. A luggage hold was right under the cockpit. The cabin had five chairs on each side of an aisle and they were made of Rotan. The following registrations are known: I-AABR, I-AAMG, I-AASA, I-AASB, I-BAUP and I-BAUR (a Ca 73ter, also designated Ca 82 *Civile*).



*The Caproni Ca 82 C was able to carry ten passengers. It was diverted from the Caproni Ca 73 and resembled it very much.*



*The passenger's cabin of the Ca 82 C.*

**Specifications:**

Span 25.00m

Length 15.10m

Height 5.60m

Wing area 143m<sup>2</sup>

Engines: two 500hp

Empty weight 3,700kg

Loaded weight 5,900kg

Maximum speed 190kmh

**Caproni Ca 90 (\*1929):** Although out of the context of this book: This aircraft (a bomber). was at the time of appearance the world's largest landplane. Only one was built.

**Caproni Ca 97 C. Tr. (\*1928):** In 1928 the building of the all-metal Ca 97 C. Tr. began. Caproni wanted to design and built a high-wing monoplane for civilian and military service. In early 1929 the prototype made its maiden flight and was later registered I-AANM (c/n 2523). In August 1929 it was delivered to the Avio Linee Italiane. Its cabin could seat six passengers in a simple layout. The aircraft had three 130hp Lorraine-

Dietrich radial engines. Beside delivery to Avio Linee Italiane, one Ca 97 was delivered to Società Area Mediterranea (I-ABCA, c/n 3079) and later passed to Ala Littoria SA. Mr Salvatore Casteli from Taliedo operated the single-engine Caproni Ca 97 C Tr, I-AAQN (c/n 2992) on the service Milan – Verona – Padua – Venice. The Caproni Ca 97, OK-BEK (c/n 3080, ex I-ABEK) was in October 1931 delivered to the Czechoslovak airline [Československa Státní Aerolinie - ČSA](#) and operated the next summer on the domestic air service Prague – Marienbad – Carlsbad.

Beside the Ca 97 C. Tr. there was also a version called Ca 97 C. Mon. (I-AASV) that was equipped with one engine of 450hp. Next to this aircraft there was also one delivered to the *Istituzione Geografico Militare* in Firenze (I-BEVA).



#### Specifications:

Span 16.00m

Length 10.85m

Height 9.15m

Wing area 40m<sup>2</sup>

Engines: three 130hp\*

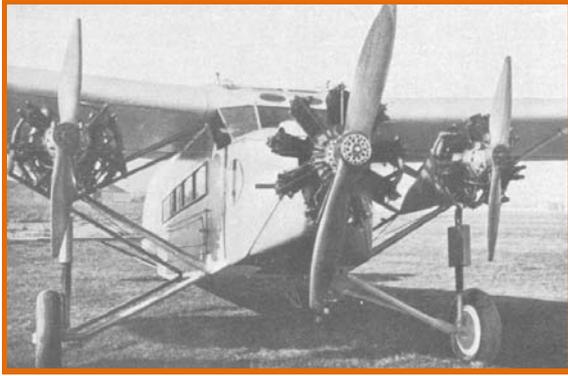
Empty weight 1,200kg

Loaded weight 2,500kg

Maximum speed 195kmh

\* With three Lorraine-Dietrich engines.

Caproni 101 (\*1927): The most successful aircraft of Caproni was the Caproni Ca 100, but since this was not an air transport aircraft it will not be described here. Of interest though is the Caproni Ca 101, which was an enlarged version of the Ca 97. The aircraft was a high-wing strut-braced monoplane built of steel-tube and fabric-covered. The three-engine aircraft made its first flight in 1927 and was initially planned as a civil airliner, but was soon adapted to the role of bomber/transport aircraft. Its use is widely known. There were only a limited number of civilian aircraft built. Its design resembled that of the Fokker F.VIIb-3m and other contemporary aircraft of the twenties. It was initially fitted with the 200hp Armstrong Siddeley Lynx with metal propeller. The 1,200 liters fuel tank was located in the upper part of the central fuselage. All three engines had 44 liters of oil in a tank located behind the engine. There were several type of engines installed. The Ca 101 Civile had three Lynx or Walter engines of 200 – 250hp, the Ca 101 CO (Coloniale) had two 200hp Lynx and one 420hp Jupiter IV, the Ca 101 Civile had three Alfa Romeo D 2 engines and finally there was the Ca 101 Civile with three Piaggio Stella VII engines.



The civilian production of the Ca 101 is as good as complete:

I-AAQO (c/n 3006) May 1930 to SA Aerocentro da Turismo, Milan;

I-AAQQ (3017) May 1930 to Caproni, Taliedo, October 1932 sold abroad;

I-AAQR (3015) May 1930 to Caproni, Taliedo, August 1932 sold to Regia Aeronautica;

I-AAZA (?) 6 October 1930 to Ministero Aeronautica Uffdi SM, Centocelle, March 1934 to Aeronautical Military Administration;

I-ALBA (3081) 2 June 1931 to Società Area Mediterranea, Littoria, later to Caproni at Milan and finally to Ministero Aeronautica;

I-ABCQ (?) January 1932 to Ministero Aeronautica, Roma, fate unknown;

I-ABBW (3205, Ca 101 CO – *Coloniali*) March 1932 to Patto Italo Etiopico SA, February 1936 to Aeronautical Military Administration;

I-ABCH (3337, Ca 101 CO – *Coloniali*) May 1932 to SA Nord-Afrika Aviazione, Bengasi and July 1932 destroyed beyond repair;



I-ABCB (3252, Ca 101bis) December 1932 to SA Nord-Afrika Aviazione, Bengasi, March 1934 destroyed beyond repair;

I-ABCC (Ca 101 bis) December 1931 to SA Nord-Afrika Aviazione, Bengasi, to Ala Littoria SA, Bengasi and August 1937 sold abroad;

I-ABCO (60524) December 1931 to Caproni, December 1931 to Aeronautical Military Administration;

I-ABCI (3349, Ca 101bis) 5 August 1932 to SA Nord-Afrika Aviazione, Bengasi, to Ala Littoria, Bengasi, August 1937 sold abroad;

I-ABCJ (3350, ca 101bis) 24 September 1932 to SA Nord-Afrika Aviazione, Bengasi, to Ministero Aeronautica, Roma and later to Ala Littoria, Bengasi;

I-AAWZ (3443) 19 May 1934 to Caproni, Milano (based at Taliedo), fate unknown;

I-ABCK (3351, Ca 101bis) 29 May 1934 to SA Nord-Afrika Aviazione, Bengasi, to Ministero Aeronautica, Roma, to Ala Littoria, Bengasi, August 1937 sold abroad;

I-BANA (ex MM60024) to RUNA, Lapodichino, fate unknown;

I-AASW (21, ca. 101B) owner unknown;

I-ABMA (Ca 101 C) owner unknown.

#### Specifications:

Span 19.80m

Length 13.85m

Height

Wing area 57m<sup>2</sup>

Engines: three 130hp\*

Empty weight 1,200kg

Loaded weight 2,500kg

Maximum speed 195kmh

**Caproni Ca 105(\*1930?): High-wing monoplane with a single 200hp Lynx engine. It was able to carry four passengers, luggage and two crew. The aircraft was similar to the Ca 101 and Ca 97. Only two were built and delivered in December 1932: One for Caproni (I-ABCE) and one for the (I-FOCO) Ministero Aeronautica, Roma. Their fate is unfortunately unknown.**



Specifications:

Span 14.00m

Length 9.60m

Height 3.00m

Wing area 26m<sup>2</sup>

Engines: one 200hp

Empty weight 850kg

Loaded weight 1,450kg

Maximum speed 190kmh

**Caproni Ca 106: Study project of an amphibian with two 500hp Jupiter engines.**

The biplane had its engines mounted in between the two wings.

Specifications:

Span 23.00m

Length 14.50m

Height 6.00m

Wing area 130m<sup>2</sup>

Engines: two 500hp

Empty weight 3,500kg

Loaded weight 5,500kg

Maximum speed 200kmh

**Caproni Ca 108: Study project for an all-metal single-engine monoplane for airmail and cargo based on the Caproni Ca 105. It was to be powered by a 240hp radial engine and the aircraft would have a speed of 185kmh.**

**Caproni Ca 111 (\*1932): Developed from the Ca 101 as a single-engine long-range reconnaissance aircraft. The prototype flew for the first time in February 1932 with the military serial MM.205. The designer was Rodolfo Verduzio and he built a sturdy but simple construction. It had a three-man crew. It was mainly constructed for military service, but three aircraft were registered in the civilian air register on the name of Ministero Aeronautica: I-ABIC (c/n 10534), I-ABYG (205) and I-ACIA (3366). A fourth aircraft (I-ALMA) was delivered to Martini Ceratto at Sardo.**

Specifications:

Span 19.68m



**Length 15.30m**

**Wing area 61.70m<sup>2</sup>**

**Engines: one 750hp**

**Empty weight 3,350kg**

**Loaded weight 5,350kg**

**Maximum speed 265kmh**

**Caproni Ca 112 (\*1932): Study for a passenger aircraft based on the Ca 111 and was to be powered by an 800hp engine. It would have a maximum speed of 220kmh.**



**Caproni Ca 123 (\*1934):** Based on the Ca 122 bomber this was to be the civilian version. It was thought to be a 'copy' of the American Douglas DC 2. The all-metal aircraft was constructed to carry crew of three (pilot, second pilot and radio operator) and 28 persons and or airmail over long distances. The aircraft was powered by two Gnome & Rhone 14 Krs engines. It had retractable landing gear and had NACA cowlings. The engines had a three-bladed propeller. The airliner was never taken in service with airlines and Ala Littoria SA (the Italian national carrier) relied on the Savoia-Marchetti land-based aircraft. Detailed specifications are unknown.



*The impressive Caproni Ca 123.*

**Caproni Ca 128:** Study of a three-engine, low-wing all-metal aircraft. It was designed for service on feeder lines and had just three 60hp engines. It could carry one pilot and four passengers in a small cabin. None were built.

Specifications:

Span 11.75m

Length 7.40m

Height 3.10m

Wing area 18m<sup>2</sup>

Engines: three 60hp

Empty weight 750kg

Loaded weight 1,350kg

Maximum speed 180kmh

**Caproni Ca 129:** A low-wing all-metal twin-engine monoplane based on the Caproni Ca 128 and did not come any further than the drawing board. It was to be powered by two 120hp engines. The measurements were as the Ca 128, but the maximum speed was considerably higher. None were built.

Specifications:

Span 11.75m

Length 7.40m

Height 3.10m

Wing area 18m<sup>2</sup>

Engines: two 120hp

Empty weight 750kg

Loaded weight 1,350kg

Maximum speed 275kmh

**Caproni Ca 132 (\*1934):** This was a smaller version of the Ca 123 and employed the basic wing structure, tail and was equipped with a retractable landing gear. It became thus a low-wing three-engine all-metal twenty-passenger airliner. Its three engines were of the type Stella IX RC and delivered 610hp, which delivered a greater output as the Gnome & Rhone engines of the Ca 123. The main undercarriage was housed within large streamlined spats.

### Specifications:

Span 27.85m

Length 18.60m

Height 4.15m

Wing area 85m<sup>2</sup>

Engines: three 610hp

Empty weight 6,000kg

Loaded weight 9,500kg

Maximum speed 290kmh



*The Caproni Ca 132 was to compete with the Douglas DC2.*

**Caproni Ca 133 (\*1934):** The final development from the Ca 101 was the Ca 133 that was designed by Rodolfo Verduzio. It was again a high-wing monoplane powered by three 460hp Piaggio Stella P.VII C.16 radial engines. The civilian version had a cabin for sixteen passengers. But still the aircraft was of welded steel-tube construction and fabric-covered except for the forward fuselage, which had sheet metal skin. The wheels were fitted in large spats and there was a steerable tail wheel. John Stroud wrote that production was believed to have been at least 275, but than most were delivered to the military. The civil version saw service at Italian airline Ala Littoria SA, which used a fleet of thirteen aircraft:

I-NINI registered 1936

I-AXUM registered 27 August 1936

I-ZULA registered 1 September 1936

I-GURA registered 5 September 1936

I-DIRI registered 7 October 1936

I-DAUA registered 18 November 1936

I-TANG registered 23 December 1936

I-NIMI registered 23 January 1937

I-AGLE registered 16 February 1937

I-DABO registered 7 April 1937

I-ROLE registered 20 May 1937

I-DALI registered 2 June 1937

I-ADUR registered 30 June 1937

The aircraft were mainly operated on the African routes and it is known that they have flown on the line Rome – Benghazi – Cairo – Wadi Halfa – Khartoum – Asmara – Addis Ababa and in East Africa including Asmara – Assab – Diredawa, Diredawa – Gorrohei – Belet Ven – Mogadiscio, Asmara – Assab – Djibouti and Addis Ababa – Diredawa – Djibouti. They operated these service at least until 1939 and only one has been recorded lost: After one year in service the Caproni Ca 133, I-GURU crashed in September 1937 and was destroyed beyond repair. The registration of the Ca 133, I-NINI was for unknown reasons cancelled in October 1938.

The aircraft carried 10,000 passengers and



operated with a regularity of 99.9 %.

*The Caproni Ca 133, I-DABO was delivered to Ala Littoria in April 1937 and operated on the airline's African network.*

Caproni Ca 148 (\*1937): A final development of the Ca 133 was the Ca 148. It too had three 460hp Piaggio Stella VII engines and was designed for Colonial services incorporating the experiences gained with the Ca 133. The first flight was made at Milan/Taliedo in May 1937 with the I-POGG (c/n 4145). All aircraft produced were delivered to a new airline by the name of Società Anonyme Avio Trasporti and were based in Assab. While Ala Littoria SA was expanding in the Italian Kingdom, the transport company Baccherin & Poggi in Abbas (in Eritrea) formed with approval of the Colonial government a new airline company for the transportation of passengers and goods in East Africa: Società Anonyme Avio Trasporti. The airline's first aircraft were four Caproni Ca 148s that arrived on board of the M/S 'Icarnia' in October 1938. They were registered as I-POGG (c/n 4145), I-TERE (4146), I-LUIG (4147) and I-EDVI (4148), supplemented by another two in December: I-ROSA (4149) and I-NERI (4151). The next six were delivered on behalf of the airline in the period September 1938 – February 1939 and were: I-GOGG, I-TESS, I-LANG, I-ETIO, I-SOMA and I-NEGH. All aircraft were used on local air services and at least six were in June 1940 transferred to Ala Littoria Comando Aeronautica as MM.60477 – MM.60482. The aircraft I-LANG crashed on 10 November 1940 and was destroyed beyond repair. In February 1941 the remaining aircraft were transferred to the Amministrazione Militare.



*The prototype of the Caproni Ca.148 at Caproni's factory airfield at Milan, Taliedo in May 1937. It was later sold to the SA Avio Trasporti.*

With this aircraft we conclude the presentation of some of the civilian versions from the Caproni factory at Taliedo. We will in a later article return with some of the civilian products of the other Caproni-factories.

Sources:

*Gli Aeroplani Caproni, New York, 1980*

*European Transport Aircraft since 1910, John Stroud, 1966*

*Italian Civil and Military Aircraft 1930-1945, Jonathan Thompson, Fallbrook, 1963*

*Dimensione Cielo Trasporto, No. 7, Roma, 1974*

Pictures:

*European Airlines Rob Mulder*

*Scans from the book 'Gli Aeroplani Caproni'*