FORERUNNERS AND INVENTORS

Very early on, humans dreamed of flying like birds. Sitting at the controls of his airplane, the *Eole*, Frenchman Clément Ader was the first man to report having flown using an engine, back in **1890**. He was followed by the first controlled flight in a motorized airplane, by the WRIGHT brothers (USA) in **1903**.
In **1670**, many forerunners would take an interest in how to make something heavier than air take flight from the water, and thus launched into the adventure of the flying boat or, as it quickly became known, the seaplane. For example, the manufacturer and pilot Blériot attempted to equip landplanes (like the *Blériot II*) with floats, but unsuccessfully.

1910 - HENRI FABRE AND THE BIRTH OF SEAPLANE

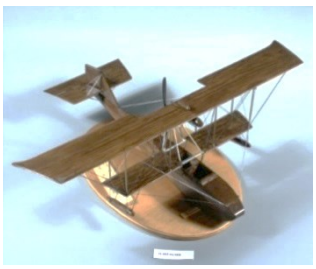
Henri FABRE (1882-1984) created **the first seaplane in the world** from zero. Unfortunately, his first craft, built in **1908**, **the Trimoteur** (model in the middle of the room), was too heavy to lift out of the water, due to the weight of its three engines. Fabre did manage to get his **Canard with floats** out of the water and land it on the Etang de Berre on **March 28, 1910**. The flight was certified in a report produced by a **bailiff** (copy of the report).

A **float from the Fabre Canard** is on display at the back of the workshop.

Henri Fabre, the son of a family of sailors and shipwrights, received financial support for his projects from his family. Once it became too costly to manufacture planes, he devoted himself to **the creation of floats for the airplanes** of other pioneers and aviators. In the end, he lost everything and turned to making furniture. He married Germaine de Montgolfier and lived to the age of 102. Bearing in mind that he traveled on board the Concorde, you could say that he experienced the entire technological evolution of aeronautics.

In 1911, a few months after Henri Fabre's flight, the American **Glenn Hammond CURTISS** claimed to have been the first man to successfully lift his plane with a central float, the **Curtiss No. 1**, out of the water. Luckily for Henri Fabre, the bailiff's report confirmed that he was, in fact, the first man to take off from a body of water, recording his name in history as the "father of the seaplane."

FIRST FLYING BOAT: THE DONNET-LÉVÊQUE



In **1912**, the French pilot and engineer François Denhaut built the **Donnet-Lévêque**, **the first flying boat**. For the first trials, Denhaut left the hull flat-bottomed. This caused a suction effect, so the craft was unable to take off. He then added an indentation under the hull, called a "step," which created an air bubble that overcame the suction and allowed the seaplane to lift off.

The craft was equipped with small balloon floats under the lower wing, which allowed the seaplane to steady itself on the water.

The line production of seaplanes began with the construction of the Donnet-Lévêque. Those planes were used by the French Navy. A full-scale reproduction of the craft can be found in the exhibition hall.

WORLD WAR I – 1914-1918

During the **First World War**, both types of seaplanes – floatplanes and flying boats – were used. Their primary missions involved **locating and monitoring submarines.** The Great War would provide an opportunity for the spectacular development of seaplanes in every industrialized country and for significant advances in their technology.

When fighting first broke out, the pilots and copilots would lob all sorts of projectiles (bricks, grenades, darts, rope, etc.) at the enemy. As technology improved, airplanes and seaplanes were outfitted with machine guns and started to carry bombs. It took significant testing to develop a synchronized machine gun that could open fire without hitting the propeller blades.

PROPELLERS

The Museum's collection includes multiple propellers. They are mainly made of glued hardwood (walnut, mahogany, beech, maple, etc.). In many cases, a mix of woods is used. On display in Pavilion 1 are a **two-blade propeller from a Nieuport, a 1917 Breguet XIV two-blade prop** and a **four-blade Chauvière** propeller for a 280 hp Renault engine.

SEAPLANE RACES – 1912-1938

Racing seaplanes started to be developed with the organization of major competitions that resulted in tremendous progress in aviation, specifically in the fields of aerodynamics and motorization.

The **first seaplane race** was held in March **1912**. The events included take-offs and landings on still water, rough water and with multiple passengers. True records were established.

The first **Schneider Cup** – one of the most famous – took place in April 1913. It was a closed-circuit speed race, in which seaplanes from multiple countries competed. In 1926, the **Macchi M.39** (the red plane hanging from the ceiling) represented Italy in the Schneider Cup. The left wing is slightly longer than the right, to allow the aircraft to make tighter left turns, because all of the bends in the course went in that direction.

PIERRE-GEORGES LATÉCOÈRE (1883-1943)

Pierre-Georges LATÉCOÈRE, the son of an industrialist, inherited railway equipment manufacturing plants based in Montaudran, near Toulouse. He came up with the idea of recovering military planes from World War I and converting them into civil aircraft. He was a true visionary, and his famous statement says much about his character and his decisive personality: **"I have re-done my calculations: our idea is unworkable. There is only one thing left to do: make it work."** Over the course of the 1920s and despite the difficulties encountered, he went on to set up airborne mail along the France-Spain-Morocco route (March 9, 1919), creating what would eventually come to be **Aéropostale** (1927). He then started to plan for the creation of a long-distance route connecting France to South America. This was the basis for the world's first air routes.

Enamel plaque of Latécoère's prices for sending mail or transporting passengers by air.

The showcase displays some of **his personal belongings**: hat, pince-nez, gloves and makila (Basque cane), as well as medals, including the Legion of Honor. The envelopes with red borders were among the first mail sent by Aéropostale, to differentiate them from ordinary mail.

Showcase containing Pierre-Georges Latécoère's **original flight suit**. Although he was not a pilot, he did participate in the test flights. The outfit kept him warm, because the inside was fully mink-lined. He also wore a leather mask to protect his face from frostbite. The fur-lined boots slipped on over his regular shoes.

FROM AÉROPOSTALE TO AIR FRANCE

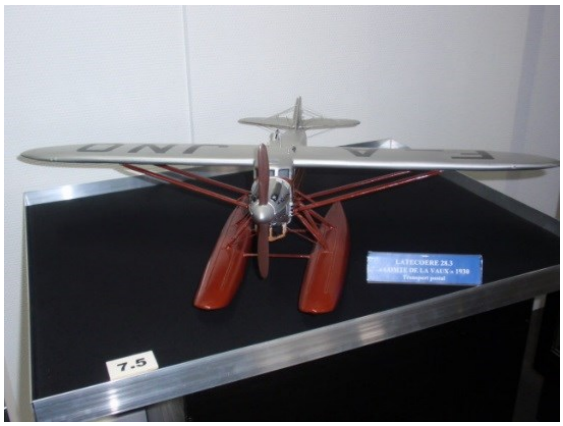
The airplane and then the seaplane, which was essential to crossing the South Atlantic, were soon employed to transport regular mail.

Pierre-Georges Latécoère and his partner **Beppo DI MASSIMI** founded the **Société des Lignes Latécoère**, the future Compagnie Générale d'Entreprise Aéronautique (CGEA), which performed the first Toulouse-Montaudran-Barcelona flight on BEPPO DE MASSIMI December 24, 1918. The route was later extended to Rabat, and the first mail was routed from Toulouse to Rabat on September 1, 1919.

"La Ligne," as it was then called, was taken over by **Marcel BOUILLOUX-LAFONT** and became the Compagnie Générale Aéropostale in 1927, more commonly known as **"Aéropostale"**. That transatlantic air route was devoted to postal services, but also to passenger transportation.

The **map that was drawn** by **Marcel MOINE**, Chief Engineer at Latécoère, shows the route and stops on the **South American** route. Starting in 1928, only escort vessels (rented from the Navy) could transport mail along the 3,200 km (2,000 miles) between Dakar and Natal. At that time, the crossing took five days but then, on May 12-13, 1930, aboard the Latécoère 28-3 christened **the *Comte de la Vaulx***, the famous pilot **Jean MERMOZ** and his crew made the first commercial crossing of the South Atlantic between Dakar and Natal, reducing the mail carriage time to 21 hours and 30 minutes.

Although everything went fine on the way out, the return flight took 53 attempts before the seaplane was able to take off. It eventually ran out of oil and was forced to land at sea, a few kilometers before reaching the coast of Africa. The ship ***Le Phocée*** came to its aid and was able to rescue the crew and the mail, but the ship was lost.



Nevertheless, this feat reduced the postal carriage times between Paris and Santiago de Chile, a distance of 13,380 km (8,300 miles), by four days.

Pierre-Georges Latécoère had launched the production of the Latécoère 300, *Croix du Sud*, seaplane for Aéropostale, but it was delayed. He then decided to convert a Latécoère 28 landplane into a **Latécoère 28-3 seaplane, the "*Comte de la Vaulx*"**, by equipping it with floats.

As a result of financial problems, the courts ordered Aéropostale's dissolution in 1931, and the French State assumed its assets in **1933** under a new group named **Air France** , which encompassed the French aviation companies, **Air Orient, Air Union, CIDNA, SGTA-Farman** and the **CGEA.**

Seaplanes were then used to experiment with regular routes to carry postal cargo in the South Atlantic and to transport passengers in the Mediterranean, on the routes Antibes-Ajaccio, Marseille-Algiers and Marseille-Beirut, the longest in the world. **CAMS 53, Lioré-et-Olivier** and **Breguet** planes were used for this.

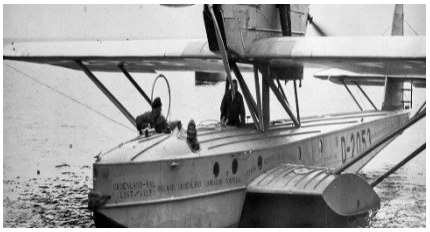
FORAYS, EXPLORATIONS

Thanks to their versatility, seaplanes were able to explore lands which were still inaccessible to airplanes. The number of forays, to cross the North or South Atlantic or simply to explore the world, were increasing in number. Military surplus seaplanes from World War I were modified to make them better-suited to the requirements of major forays. Later on, special seaplanes were developed, like the Dornier Wal and the Sikorsky S-38 and S-39.

NAVY CURTISS NC4 – 1919

1919 was the starting point when an American **Curtiss NC-4**, commanded by Albert Cushing **READ**, made the first aerial crossing of the North Atlantic, in a total of 57 hours of flight.

ROALD AMUNDSEN'S ARCTIC EXPEDITION



World-renowned Norwegian explorer **Roald Amundsen** used the **Dornier Wal** – the best type of flying boat at the time, made entirely of metal – for his **North Pole** expeditions in **1925**. After departing with two Dornier Wals, registered as N24 and N25, he had to abandon the N24, after it broke down 250 km (150 miles) from the North Pole. To get the Dornier Wal N25 to lift out of the water, the six crew members sawed blocks of ice out of the ice pack, which they adjusted to make a very steep take-off strip along which they could slide in order to take flight. The expedition would become one of the most extraordinary exploits in the history of major aerial forays.

DISAPPEARANCE OF THE LATHAM 47

May 1928 – The Italian airship ***Italia*** set off on an expedition to the North Pole under the command of the Italian General **NOBILE**, a direct rival of Amundsen. Caught in a storm, the airship was wrecked and broke in two. Some of the crew, plus a tent and radio and some food, fell onto the ice pack. The other crew members, stuck in the gondola of the drifting airship, were never found. The safe and sound portion of the crew sent out distress calls, and different countries mobilized to rescue them.

Roald Amundsen asked the French State for a plane he could use to rescue the crew. The only aircraft that France could offer was the **Latham 47**, which was about to set off for the southern hemisphere. In other words, it was not equipped for cold of the Arctic. The crew of French sailors picked up Amundsen in Norway and flew off toward Spitsbergen. They were never seen again. Only the Latham's **wooden balloon** (*a small stabilizing float*) and **gas tank** were found. The survivors of General Nobile's expedition were rescued.

THE COMMERCIAL CONQUEST OF THE SEAS

The exploration of the world and all of the feats achieved suggested a future for transportation by seaplane. During the interwar period, giant seaplanes competed with transatlantic liners and transported passengers along regular routes over the oceans, connecting the Americas to the rest of the world. It was the golden age of seaplanes!

DORNIER DOX, THE GIANT

The DO X occupies a special place in the history of seaplanes. In **1929**, the German company Dornier created this seaplane, a veritable flying palace that could carry up to a record **169 people**! At the same time, though, it was extremely heavy and flew over the water at an altitude of just 500 m (1,600 ft) and at a speed of just 150 kph (93 mph), despite its **12 engines**. It was nicknamed the "liner of the skies." It flew around the world from 1930 to 1931. The interior was very luxurious, to be able to accommodate wealthier passengers.

CAPRONISSIMO CA 60

This nine-winged seaplane, or triple triplane, was built in **1921** by the Italian manufacturer **CAPRONI**, designed to carry 100 passengers on Adriatic crossings. During its test flights, the plane's fuselage was ballasted with sandbags, in lieu of passengers. At the time of take-off, the improperly-stowed sandbags slid toward the back. The main keel beam and the hull were broken in two. Despite Caproni's efforts to rebuild the Ca.60, a fire would eventually put an end to the adventure!

PROVISIONS AND CATAPULT

At this time, seaplane flight ranges tended to be limited, as was the case with the German **Dornier Wal** on the South American route. A German ship, the *Westphalen*, was positioned halfway along its course, towing a rigid sail behind it, on which seaplanes could land. The planes were then hoisted up by a crane and placed on the rail of a catapult for refueling before being catapulted into the air to finish their journeys.

SHORTS SEAPLANES

The commercial seaplane business expanded in the British Empire between 1936 and 1939. Imperial Airways ordered two-deck **Short S23** to transport mail and passengers. They served Egypt, the Indies, Eastern Africa, South Africa, Malaysia and Australia. After World War II, during which Short seaplanes played an important role, some of them would resume this service up until 1947.

BOEING SEAPLANES

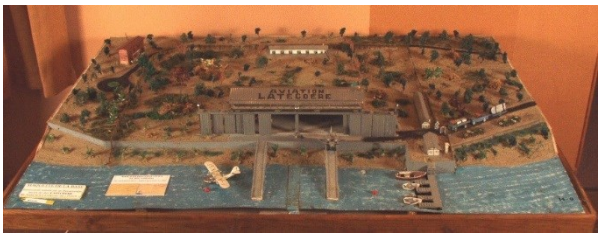
Competition for the aerial conquest of the Atlantic would be tough between the USA and the Old World. Boeing was founded in 1916 and, after the First World War, would focus on civil seaplanes, namely with an airmail connection between San Francisco and Chicago.

It would sign an agreement with **Pan American World Airways**, allowing Boeing to design a commercial seaplane capable of carrying passengers on transatlantic voyages. Then, the **Boeing 314** Clipper (Pavilion 2) would come into being in 1938.

BISCARROSSE, GATEWAY TO THE ATLANTIC

Biscarrosse, gateway to the Atlantic? Yes, Biscarrosse, with its lovely lake, would become, for a time, the center of a gigantic aeronautical complex, from which Latécoère's large seaplanes would take off and where others from around the world would stop.

LATÉCOÈRE ASSEMBLY AND FLIGHT-TEST BASE



When Pierre-Georges Latécoère launched the production of seaplanes to cross the South Atlantic, he looked for the ideal body of water where he could set up a **seaplane assembly and flight-test base**. It was initially installed in Saint-Laurent-de-la-Salanque, near Perpignan, whose lake presented a number of limitations, but then he discovered Biscarrosse's southern lake. Its freshwater, strip of dunes protecting against westerly winds, and area of 35.4 km² (13.7 sq mi) provided for a water take-off strip around 10 km (6 miles) long.

The base was set up in **1930**, with a large hangar, offices and slips that were used to slide the seaplanes onto the water. The parts, however, were manufactured in plants in **Montaudran**, near Toulouse, and were taken to Biscarrosse by road convoy. At a time when Latécoère seaplanes were growing ever bigger, the base's hangar was likewise expanded, and the roofs of the two buildings formed a V shape. In **1956**, the snow that had accumulated in that V after a major snowstorm caused the roofs to collapse in on the seaplanes inside the hangar. That incident marked the beginning of the end of production of Latécoère seaplanes. During the 1950s, landing strips and airports started to be built all over, close to big cities. No longer was humankind dependent on bodies of water for an airplane to take flight. Additionally, landplanes demanded less maintenance than seaplanes.

THE MYTHICAL LATÉCOÈRE FLYING BOATS

More than 120 Latécoère seaplanes took off from Lake Biscarrosse, although some left a deeper imprint on the city and on the history of aeronautics.

Croix du Sud* Latécoère 300** – The spare parts for the Latécoère 300 postal seaplane christened the ***Croix du Sud were transported by truck from Toulouse to Biscarrosse. Latécoère's test crew performed technical testing on Lake Biscarrosse. The seaplanes were then entrusted to French Naval Aviation pilots, the best pilots of the era, for experimental voyages intended to provide proof of the qualities of the aircraft.

The *Croix du Sud* was then passed on to Air France for postal crossings between Dakar and Natal. Jean Mermoz, the famous pilot and icon of his era, would disappear at sea along that South American route, on **December 7, 1936**, along with his crew members Pichodou, Lavidalie, Ezan and Cruveilher. The last words uttered before the accident were, "Let's cut the right rear engine..."

Lieutenant de Vaisseau Paris Latécoère 521

This seaplane, built in 1935 to transport passengers, in response to the German Dornier DO X seaplane, was made for North Atlantic crossings. This French "liner of the skies," with its sumptuous interior design, could carry up to 72 passengers. It was used by Air France Transatlantique, a company created by Air France and "Transat" for experimental flights between **Biscarrosse and New York** in 1938 and 1939. The most famous flight was the direct one from New York to Biscarrosse, made on **July 14, 1939**. On board the plane were Henri GUILLAUMET, as chief pilot, and Antoine de **SAINT-EXUPÉRY**, as a passenger. The Latécoère 521 also linked Biscarrosse to Fort-de-France for testing.

Latécoère 631, then the largest seaplane in the world

In 1937, the Ministry of Air launched a request for proposals to manufacture a seaplane airliner for Air France. Both SNCASE, with its **SE.200** seaplane, and Latécoère were in the running. In the end, the **Latécoère 631** was chosen. Christened the ***Lionel de Marmier***, the seaplane could carry up to 40 passengers (lying down). The prototype was captured by the Germans in 1942 and taken to Friedrichshafen, Germany, where it was bombarded and sunk in Lake Constance. The second aircraft was concealed near Toulouse and returned to Biscarrosse to fly in 1945. Starting in 1947, it flew **between Biscarrosse and the West Indies** (Fort-de-France), with a stop in Port-Etienne. This regular passenger route was interrupted after a year, following the accident that occurred on August 2, 1948, when the aircraft was lost with all hands in the Atlantic. The 631s were then converted into cargo seaplanes, to carry freight to Africa. After repeated accidents, the Latécoère 631s were banned from flying in **1955.**

Latécoère 631 wing section

In the middle of the room, a **wing section from the *Lionel de Marmier* Latécoère 631** is on display. The piece corresponds to the red outline on the photo on the information sheet. A full Latécoère 631 wing contained about 50 of these segments, for a total wingspan of more than 57 m (187 ft). Inside this wing is a sort of tunnel, which mechanics would use to get around, in the case of an incident involving the engines while in flight.

Latécoère 631cockpit

This is a faithful replica, made of all original parts: the windows, chairs, shelf, wall lights, sink, towel bar, bathroom accessories, ladder, etc. Because the trip from Biscarrosse to the West Indies took a day and a half, with one stopover, passengers were able to sleep on board the seaplane. For that reason, the seats could be converted into **bunk beds**. A ticket cost the equivalent of €10,000 today.

ROGER BONNOT

Captain BONNOT, a naval officer and **first commander of the *Croix du Sud* Latécoère 300** and of the ***Lieutenant de Vaisseau Paris* Latécoère 521**, played a decisive role in the choice of the site in Les Hourtiquets for the creation of the first seaplane base in Europe and the only one in France. This collection of personal belongings testifies to the life of the famous commander: flight logs, a press book, photos, decorations and tie of a Legion of Honor Commander, cartoons, insignia, etc.

The small teapot comes from the very lightweight silverware that was made in 1935 for the Latécoère 521, the *Lieutenant de Vaisseau Paris.*

The engraved magnifying glass comes from the Latécoère 300, the *Croix du Sud.*

STOP IN BISCARROSSE FOR PAN AM CLIPPERS

Pan Am (Pan American Airways) also ran “liners of the skies” called **Clippers**. A New York-Berre route even had stops in Lisbon and Biscarrosse. This was covered by the **Boeing 314** christened the ***Yankee Clipper***, and then by the *Dixie Clipper*. The route was shut down in 1939.

AND IMPERIAL AIRWAYS AND BOAC SHORTS

The Class C Shorts of **Imperial Airways**, then **BOAC** (British Overseas Airways Corporation) also started to stop at the lake in Biscarrosse and the seaplane base in Les Hourtiquets in 1939-1940, creating a diversion stop for their route to Africa and the Indies.

The **Short Mayo Composite** was one of the oddest experiences in civil air transport, along the Ireland-Canada route.

World War II put an end to the developing of both experimental and regular commercial crossings.

THE WAR EFFORT

On the eve of the Second World War, the number of seaplanes built in different countries around the world attests to the technical progress that had been made, but also to a lack of interest in military seaplanes.

The French Air Force, created in 1933, was equipped with airplanes, with seaplanes being used by Naval Aviation. The interwar period saw the emergence of new missions entrusted to Navy aircraft, namely including **surveillance**, **observation**, **exploration** (maritime patrols and shipborne seaplanes) and **torpedoing**.

The largest seaplanes were used in **anti-submarine warfare**. Those reconnaissance seaplanes were often military versions of civil aircraft. For example, the *Croix du Sud* Latécoère 300 became a **Latécoère 302, the *Mounayres***. Three Latécoère 302s formed the E4 Squadron, based in Biscarrosse and commanded before the war by **Lieutenant Commander JOZAN**.

As for Pierre-Georges Latécoère, he built a torpedo seaplane, the **Latécoère 298**. In total, 96 of those planes were assembled at the base in Biscarrosse, equipped with **Hispano-Suiza engines**. The corresponding **toolbox** was fairly small in size.

On the eve of World War II, the seaplane flying school in Hourtin was outfitted with **CAMS 37 craft: propellers, copper radiators, oil tanks** and more were bound in Biscarrosse's northern lake, near Cazaux.

CONSOLIDATED PBY CATALINA

This American seaplane, designed by Consolidated and dubbed ***"the Queen of the seas,"*** was the most commonly-built seaplane in the world, with a total of **3,282 manufactured.** Made very popular by its versatility, this **amphibious** seaplane could set down on either land or water. To do that, it was equipped with retractable wheels and balloon floats. It was widely used for far-away patrols in the Atlantic and Pacific, due to the reliability of its star-shaped **Pratt & Whitney 1,200 hp engines**. It would also be used by many Allied countries.

But the Catalina was flown on a variety of different missions: military, espionage, forest firefighting (it is the ancestor of the Canadair planes) and documentary film-making (Jacques Cousteau). Some of them, now rare collector's items, are still flying today and return to Lake Biscarrosse for the **International Seaplane Event** or for pilot training.

TRANSATLANTIC SEAPLANE BASE IN LES HOURTIQUETS

France had fallen behind in the commercial conquest of the North Atlantic and urgently needed a seaplane base. Several big cities in France submitted their candidacies to host it. In the end, **Biscarrosse was chosen, both for its geographic location and for its aeronautical history.**

The construction of the seaplane base in Les Hourtiquets, on the western shore of Lake Biscarrosse, began in 1938, and the first experimental crossings, to the West Indies and New York on board **Latécoère 521s and 522s**, were launched in 1939. The seaplane base in Les Hourtiquets had a tarmac and maintenance hangars, offices, a control tower and a hotel for passengers.

Its construction was completed in **1939**, during the German Occupation. During that time, **Blohm und Voss 222 Wikings and 138s, Dornier 24s, Heinkel 60s and Arado 196s** were based there. The occupying forces would leave the base for good on August 23, 1944, destroying everything that they could on their way out.

Latécoère 631 flights from the base resumed in **1945**. But a series of accidents would lead to a flight ban for those seaplanes and, with it, an accompanying slowdown in activities at the base. In **1963**, the seaplane base was determined to be useless and was transferred to the French Ministry of the Armed Forces, within the scope of the **CEL** (Landes Test Center): the old offices and the control tower became listed buildings, and the hotel was rehabilitated and used by the military.

WORLD WAR II

As veritable all-purpose machines, seaplanes were employed in diverse missions during the armed conflict. But airplanes were developing (large-scale paved runways and more robust undercarriages making it possible to build larger planes), making seaplanes less necessary.

BLOHM UND VOSS BV 222

This military seaplane was the biggest and heaviest in the war. During the attack on the base in Les Hourtiquets by English Mosquitoes, several of the aircraft were destroyed. The BV 222 was equipped with six engines. This 1,200 hp **BMW engine** was raised and restored by volunteers from **the Friends of the Museum Association**. A system is in place, allowing the Museum to run the engine and visitors to see its inner workings, like the pistons, thanks to cross-sectioned cylinders.

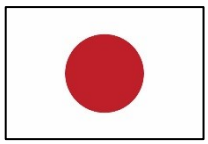
MILITARY SEAPLANES

PANEL OF SEAPLANES USED DURING WORLD WAR II

This panel shows the use and numbers of seaplanes built during the Second World War, including only series of which at least 50 were made. The color green indicates that the seaplane's main function was the **detection** and **surveillance of submarines**. It should be noted that seven prototypes passed the mark of 1,000 planes built. Although hundreds of thousands of airplanes were manufactured, only 10,000 seaplanes were...

The **Short Sunderlands** were very effective against German submarines (U-boats), which they chased and destroyed during the Battle of the Atlantic.

It is of interest to see that the seaplane configuration of the most famous English fighter plane, the **Supermarine Spitfire,** is very little-known.



The Japanese built the **Kawanishi Emily**, the best seaplane of its time and, above all, the fastest of World War II. They would also be the only ones to build fighter seaplanes, like the **Mitsubishi Zero.**

FRENCH NAVAL AVIATION SHOWCASE

This showcase displays several pieces from French Naval Aviation seaplanes, such as various on-board instruments, line-throwing guns, gyrocompasses, Navy compasses, sextants and the control wheel of a SCAN 20. In the middle is the **uniform of a Naval Aviation Chief Petty Officer**. The pieces here also include **François HUSSENOT**'s **flight recorder**, one of the first **black boxes**: its orange color was meant to make it easier to locate in the water after an accident.

In the post-war period, the development of large airports and more reliable engines also led to the gradual abandonment of seaplanes. After the 1960s, civil and military seaplanes lost their appeal, and line production was limited to rescue seaplanes, lightweight seaplanes used for tourism and recreation, the transportation of passengers and small cargo, but also firefighting.

SOME REMARKABLE SEAPLANES

HUGHES H-4, THE BIGGEST OF ALL

The American billionaire **Howard HUGHES** wanted to build the biggest seaplane in the world, capable of transporting up to 300 passengers or soldiers. The ***Spruce Goose***, also known as *Hercules*, only flew once, for 1.5 km (1 mile), at an altitude of 20 m (70 ft), on **November 2, 1947**. Today, it can be seen at the Evergreen Aviation and Space Museum in Oregon (USA).

GRUMMAN ALBATROSS, THE UNIVERSAL SEAPLANE

A model from the new 2018 acquisition! This American seaplane chiefly spent its career in **search and rescue at sea**, beginning in **1947.** This seaplane, which was made in several versions, could function in any weather, over great distances. Its AN/AP-31 **radar system**, placed in the nose radome, and the great variety of navigation and radio systems made it highly effective for signal reception. The adaptation of a ski system and the addition of **JATO** (jet-assisted take-off) made it suitable for multiple missions (patrolling, iceberg destruction, patient transportation, anti-submarine warfare, search and rescue, and passenger and cargo transportation). As a result, it would be used by the US Armed Forces and by **22 countries** worldwide.

You can admire the full-scale craft, on display outside the Museum!

WATER BOMBERS

Today, seaplanes are primarily used to fight fires, in the form of water bombers.

BERIEV BE 200

The jet Russian **Be-200** is a water bomber that is employed in forest firefighting. Unlike the Canadair (which has a capacity of 6,000 liters – 1,600 gallons – of water), its water tank can hold up to 20 metric tons of water (**20,000 liters** or 5,300 gallons). And yet scooping (*filling up with water using a sort of shovel installed below the hull of the seaplane*) only takes **14 seconds.**

CANADAIR

France's Civil Security water bombers, which were long based out of Marignane (on the Etang de Berre outside Marseille), have since been transferred to Nîmes.

The first water bomber used, the American-made **Catalina**, was in service for Civil Security from 1963 to 1969. It was followed by the **Canadair CL-215**, built by the Canadian company, **Bombardier**. That model, with its water capacity of 5,400 liters (1,400 gallons), was replaced by a more recent version, the **Canadair CL-415**, in 1996. The new version could scoop up to **6,130 liters (1,620 gallons) of water in 12 seconds.** The water was then divided between two tanks inside the plane.

AIR TRACTOR

This US-built seaplane is employed in Spain for agricultural work. The **AT-802F**, also known as the ***Fire Boss***, can hold up to 3,524 liters (930 gallons) of water. Scooping is done by the floaters, and dropping, by the fuselage.

TODAY, manufacturers are developing the prototypes of tomorrow, to respond to civil and military needs. Let's not forget that 70% of the Earth's surface is covered with water. Airport saturation, climate change and rising water levels, coastal surveillance and maritime security: all of these and more will be the future missions of seaplanes, working in the service of our planet's populations and the environment. Are we witnessing the rebirth of the seaplane?