

# Madrid's flagship

**Roberto Yáñez and Alex Rodríguez** visit Spain's national aeronautical museum



*Hangar 1 has been totally remodelled, including a section dedicated to the pioneers of aviation.*



**A** profound transformation is going on at the Museo de Aeronáutica y Astronáutica de Madrid, considered to be one of the most important aeronautical collections in Europe.

It is located a short distance southwest of the Spanish capital and occupies part of the historic Cuatro Vientos airfield.

Popularly known as the Museo del Aire (MdA), its creation can be traced to the birth of the Spanish Air Force (Ejército del Aire - EdA). The Spanish Civil War left the country without the resources, and probably the will, to secure the nation's military aviation heritage. Many aircraft that took part in the battles were scrapped to obtain much-needed metal to make tools and utensils.

It was not until June 16, 1966 that the MdA was officially instigated and the search began for a home. Several sites around Madrid were studied, including the airfield at

Barajas (Adolfo Suárez Madrid-Barajas Airport) and the imposing air ministry building (today the EdA headquarters). All were rejected due to lack of space.

It was decided the museum should be located at an airfield to provide plenty of room and to assist in the arrival of exhibits. Fortunately, Cuatro Vientos, the birthplace of Spanish military aviation, had a large hangar that was not being used. This award-winning, historic, metal-framed building was built in 1928-1929 to a German design for the Escuela Superior Aerotécnica (advanced aeronautical technical school). It covered an unobstructed 8,200sq ft (2,500 m<sup>2</sup>) making it the largest of its kind in Europe at the time.

### Opening up

The transfer of exhibits to Cuatro Vientos began in 1975, as well as the arrival of in-service aircraft as they were withdrawn from the EdA

inventory. At the end of 1979 work began to prepare what is today called Hangar 1 and the external display grounds. The Museo del Aire came into being on May 24, 1981.

Once opened to the public, the museum grew exponentially. New halls were built and the outside area was landscaped. Staff visited EdA bases and military installations in search of material that might otherwise have been thrown away.

Exchanges with other countries, principally France and Germany, saw the rescue of airframes, engines and other artefacts that had remained largely forgotten. The MdA's inventory increased considerably; the number of aircraft rose from about 80 aircraft to 140.

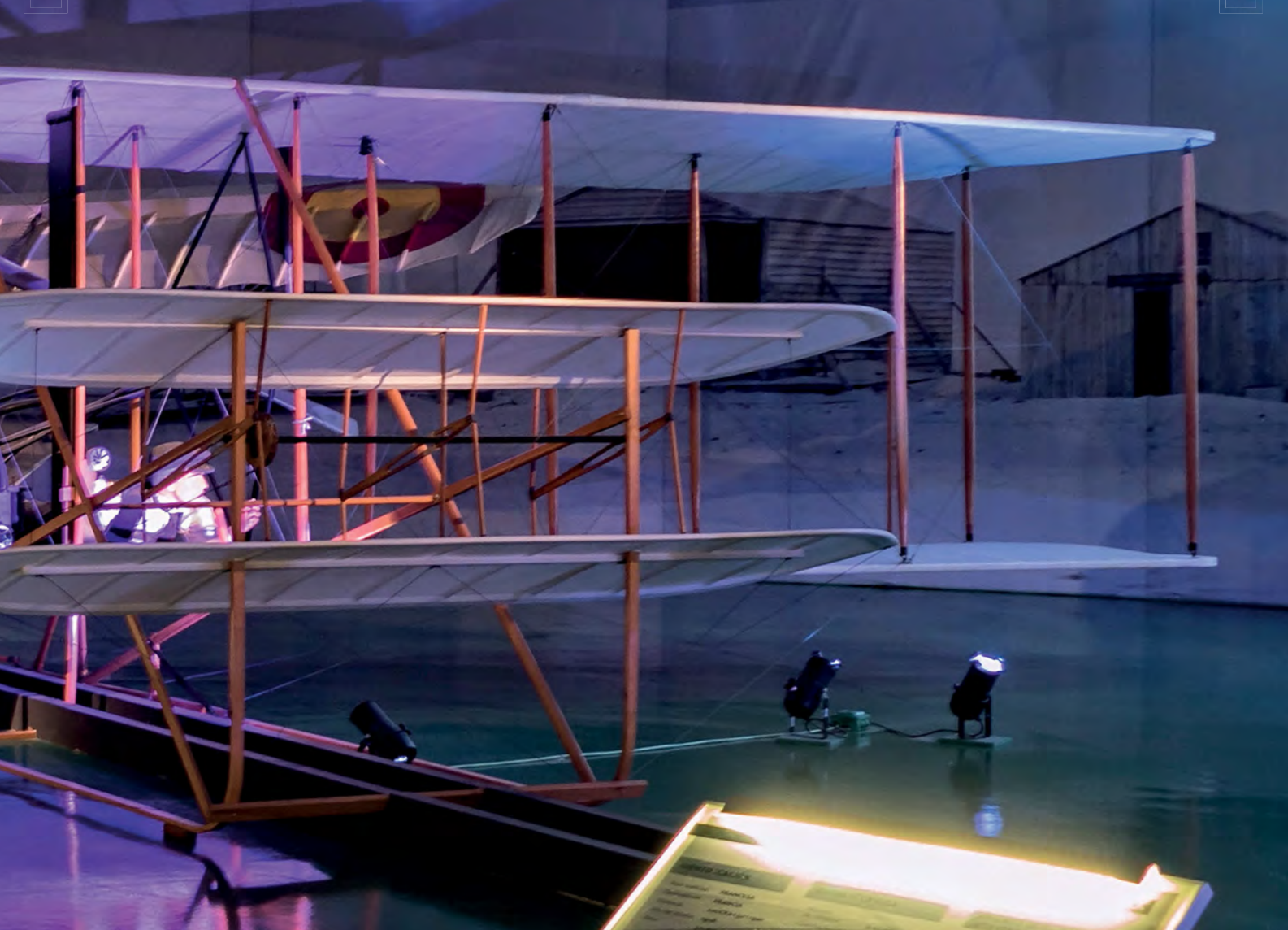
The 1990s saw important growth with the construction of four hangars (Nos 4 to 7) thanks to the acquisition of adjacent

land belonging to the Ministry of Defence. By this time there were fewer items arriving and the MdA could begin concentrating on its fundamental objective, the preservation of the military and civilian aviation heritage that it possessed.

At the beginning of 2005 it was becoming apparent the museum would soon run out of space. Expansion plans were made after Cuatro Vientos faced the arrival of some large airframes, such as the Boeing 707 and the C-130 Hercules, to meet one of the museum's goals, to gather at least one example of each EdA type.

### New direction

Thanks to the work of General José Castresana, Chief of the Servicio Histórico y Cultural del EA (SHYCEA - EdA's historical and cultural service, of which the MdA is a part) and current MdA director, Coronel J Ayuso, further







The huge Dornier Do 24T-3 needs a laborious and costly restoration. Until this is possible, it is stored in one of the museum's hangars. MUSEO DEL AIRE



Fokker C.III replica in the section within Hangar 1 covering Spanish North Africa.

land close by was secured in 2016 which will nearly double the site's footprint. This new area will serve to decongest the current exhibition areas and expand the car park, which is usually full at weekends. Work to fence this area off began last October.

Long-term plans by SHYCEA and MdA envisage further expansion, to bring to an end the constant lack of space that the museum has traditionally suffered. The scheme launched last year will eventually include more display halls to bring indoors more of the external exhibits.

There has been a redefinition of the aims of the MdA. Not only is it to present the history of Spanish aviation but also will show its place in world history. It is to do this in an attractive way so that any visitor, not just an aviation enthusiast, can understand.

To achieve this aim, each aircraft will be part of a full-size diorama that puts it in its historical context. This new concept has already been applied in Hangar 1, which is now open to the public again after more than a year's work.

Four zones in Hangar 1 are dedicated to a specific period

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Spain only operated one PBY-5A Catalina which was seized from the USAAF in July 1943. The museum example was donated in 1996 by fire-fighting contractor SAESA.

of aviation history. The first is dedicated to the pioneers, both Spanish and foreign; the second covers the conflicts in the Spanish North African territories; a room

deals with the period between the African wars and the Civil War; lastly the subject is the great flights undertaken by Spanish aviators in the 1920s and 1930s. ➔



The MdA F-104G Starfighter, acquired from Germany, is painted in EdA colours to starboard, Luftwaffe to port.





One of the jewels of the MdA is the He 111E-1 'Pedro', a survivor of the Spanish Civil War.  
MUSEO DEL AIRE



The Heinkel He 111 was built under licence in Spain, ending with the Rolls-Royce Merlin-powered CASA 2.111. MUSEO DEL AIRE

## Museo Del Aire

Aerotécnica AC-12 Pepo	Z2-6	De Havilland DH.4 replica	'M-MHEI'	Mikoyan-Gurevich MiG-17F Fresco	'96'
Aerotécnica AC-14	Z4-06	De Havilland Moth Major	30-89	Mikoyan-Gurevich MiG-21MF Fishbed	
AISA I-11B Peque	EC-AKL	De Havilland Hornet Moth	'TH-001'	Mikoyan-Gurevich MiG-23ML Flogger-G	
AISA I-11B Peque		De Havilland Tiger Moth	'30-103'	Mil Mi-2 Hoplite	CCCP-23760
AISA I-115 Garrapata	E9-119	De Havilland Dragon Rapide	G-ACYR	Miles Hawk Major III	
Avro 504K replica	'M-MABE'	De Havilland Dragon Rapide	'40-1'	Morane-Saulnier G replica	'1'
Beech T-34A Mentor	E17-16	De Havilland Canada Caribou	T9-25	Morane-Saulnier MS.181	004
Beech Baron 55		Dornier Do J Wal replica	'M-MWAL'	Morane-Saulnier MS.230	'005'
Bell 47G-2 (Agusta-built)		Dornier Do 24T-3	HD.5-2	Morane-Saulnier Alcyon	105
Bell 47G-2 (Agusta-built)		Dornier Do 27 (CASA C-127)	U9-33	Nieuport IVG replica	
Bell 47G-3 (Agusta-built)		Dornier Do 27B-5	U9-76	Nord Pinguin II (Messerschmitt Bf 108B)	
Bell 47J3B-1 (Agusta-built)	EC-AXE	Dornier Do 28A-1	U14-1	North American AT-6D Texan	C6-155
Bell OH-13H Sioux		Douglas C-47B Skytrain	T3-36	North American T-6D Texan	E16-90
Bell 204AS		Douglas C-54A Skymaster	T4-10	North American T-6G Texan	
Bell 205A	HE10A-6	Farman 402	002	North American TB-25N Mitchell	'74'
Bell UH-1H Iroquois		Fauvel Monobloc AV-361		North American F-86F Sabre	'C5-175'
Bell Jet Ranger (Agusta-built)	HD12-3	Fiat CR-32 Chirri (Hispano HA.132L)	'3-52'	North American F-86F Sabre	
Boeing KC-97L Stratofreighter	TK1-03	Fieseler Fi-156C-6 Storch	'L16-23'	Northrop SF-5A Freedom Fighter (CASA-built)	
Bölkow Bö 105LOH (CASA-built)		Fleet 2	LV-ZBR	Northrop SRF-5A Freedom Fighter (CASA-built)	
Bölkow Bö 105LOH (CASA-built)		Fokker C.III replica	'M-MOAB'	Piper Comanche 260	'E30-2'
Breguet XIX GR	12-72	Fokker Dr.I replica		Piper Aztec 250	
Breguet XIX TR Super replica		Grumman HU-16B Albatross	AD1B-8	Piper Twin Comanche 160	E31-2
Bristol F.2b Fighter replica	'B.21'	Grunau SG-38 Schulgleiter (AISA-built)	PE-37	Piper Navajo P	
British Aircraft Eagle II replica	'EC-CBB'	Grunau SG-38 Schulgleiter (AISA-built)		Polikarpov I-15 Chato replica	
Bücker Jungmann (CASA-built)		Heinkel He 111E-1 'Pedro'		Polikarpov I-16 Mosca replica	
Bücker Jungmann (CASA-built)		Heinkel He 111H-16 (CASA 2.111F)	T8B-97	Rutan Long EZ	
Bücker Jungmeister	E1-14	Hirth Acrostar II	EC-CBS	Saab AJ 37 Viggen	37074
Canadair CL-125-1	ED13-1	Hispano HA-1112 K1L Buchón	C4J-10	Saab J 32E Lansén	32543
CASA C-207A Azor	T7-6	Hispano HA-1112 M1L Buchón	C4K-158	Slingsby T.34 Sky	
CASA C-207C Azor	T7-17	Hispano Saeta	A10A-12	Slingsby T.45 Swallow	
CASA C-212 Aviocar	XT12-1	Hispano Super Saeta	A10C-91	Stampe et Vertongen SV-4C	46
CASA C-212 Aviocar		Hispano Super Saeta		Stinson C-108-3 Voyager	
CASA C-101 Aviojet	XE25-01	Hispano-Suiza HS.34	EC-AFJ	Sud Alouette II	EC-CVK
Caudron G.3 replica		Hughes 269A-1		Sud Alouette III	
Caudron C.272 Luciole	'007'	Junkers Ju 52/3m (CASA 352L)	T2B-211	Sud Alouette III	
Cessna O-1A Bird Dog	L12-2	Junkers Ju 52/3m (CASA 352L)	T2B-254	Sukhoi Su-22M4 Fitter-K	
Cierva C.6bis replica		Klemm L.25		Transavia PL-12T Airtruck	VH-TRQ
Cierva C.19 Mk.IVP	EC-AIM	Lilienthal glider replica		Vilanova Acedo (Bleriot XI)	
Cierva C.30A replica		Lockheed T-33A		Vogt LO-100 Zwergreiter	
Comper Swift replica		Lockheed F-104G Starfighter	26+23 / 'C8-15'	Westland Whirlwind 2	
Consolidated PBV-5A Catalina	'74-21'	Lockheed P-3A Orion	22-26	Wright Flyer replica	
Dassault Mirage IIIEE	C11-09	MBB 223 Flamingo		Zlin Trener Master	EC-BVK
Dassault Mirage F.1BE	CE14-7	McDonnell F-4C Phantom II	C12-39	Zlin Akrobat	
Dassault Mirage F.1EDA	C14C-77	McDonnell RF-4C Phantom II			





A Canadair CL-215 amphibious fire-bomber with a Spanish Navy Piper Comanche liaison aircraft.



A Fiat CR.32 Chirri reconstruction depicting the machine flown by top Nationalist 'ace' García Morato.



Hangar 4 is dedicated to rotary wing types and is a shrine to the autogyro pioneer, Juan de la Cierva. As well as replicas of his C.6 and C.30A, there is an original Avro-built C.19 Mk.IVP of 1932.



Spanish built and designed Aerotécnica AC-14 five-seat light helicopter of 1956.

The Hangar 1 project was made possible thanks to financing from private donations made to the recently created non-profit Ejército del Aire Foundation. This allows the museum to receive funding that is not related to government budgets, something that had not happened in the past.

Now that the remodelling of Hangar 1 is complete, work will begin on the other halls to introduce diorama-based displays. An entire building will tell the

story of the Civil War. Some of the aircraft are quite large and a new building could be needed.

### Exceptional scope

The scope of the aircraft collection is exceptional. There are two examples of the de Havilland Dragon Rapide. One looks very out of place with its British civil registration and Olley Air Service titles. This machine, G-ACYR, carried General Francisco Franco from the Canary Islands to Morocco

in July 1936 at the start of the uprising against the government of the Republic that erupted into the Civil War. In 1957 the biplane was donated to General Franco.

One of the many jewels of the MdA is the only surviving Heinkel He 111E-1 'Pedro' and a Civil War veteran. This variant featured a stepped cockpit windscreen in place of the more familiar fully-glazed nose. Spanish manufacturer CASA went on to build He 111s under licence and an

example of the Rolls-Royce Merlin-powered 2.111 version is also with the collection.

Hangar 4 is dedicated to rotorcraft and is a shrine to Spanish engineer Juan de la Cierva, pioneer of the autogyro. An Avro-built C.19 Mk.IVP of 1932 is on display, as well as replicas of the C.6 and C.30A.

Acquired from Germany, the MdA's F-104G Starfighter wears Spanish colours on one side and Luftwaffe markings on the other.



Three fighters that formed the backbone of the EdA from the 1960s, clockwise from the rear: F-4C Phantom, Mirage F1ED, Mirage IIIEE.



A Boeing KC-97L, once used to refuel EdA F-4C Phantoms, dominates the static park.



## “There has been a redefinition of the aims. Not only is it to present the history of Spanish aviation but also it is to show its place in world history”

Spain operated 21 F-104s between 1965 and 1972 for more than 17,000 flight hours without losing a single example of the fighter known to many air forces as the ‘Widowmaker’.

### Helping hands

A programme to repaint the aircraft outside continues, in order to slow down deterioration caused by the weather. For this task, MdA counts on the assistance of the nearby Maestranza Aérea de Madrid (Madrid Air Depot) which has been undertaking this work for many years, although lately some has been contracted to civilian companies. Large aircraft that cannot be transferred to the depot are treated in-situ.

Currently the fighter collection

is undergoing a revamp. This year it is planned to work on the F-104G Starfighter and the Saab Lansen. Possibly the MiG-21, MiG-23 and Su-22, received from Germany in the mid-1990s, will be next.

Currently the museum has a staff of around 15 civilian and military personnel, of which only two are aircraft mechanics. The creation of the Asociación de Amigos del Museo del Aire (AAMA) at the end of the 1990s greatly helped in overcoming the lack of qualified manpower.

Separate, but intimately connected to MdA and its objectives, AAMA leaders periodically meet with museum staff to establish priorities of work, not only on aircraft but on other items in the collection. Weekend work parties assist with

restorations, urgent repairs and provide guides. AAMA is financed by contributions from members, allowing it to acquire the tools and materials for projects at Cuatro Vientos.

### Exchanges and big exhibits

Since its inception, MdA personnel have collaborated with other European museums to foster the exchange of information, exhibits and parts. This has helped amass one of the largest and most important collections of piston engines in the world. One of the latest was acquired from the Deutsches Technikmuseum in Berlin, an Ansaldo 6A of 1918 swapped for a BMW Bramo 323 Fafnr radial which will be used in

the German institution's ambitious Focke-Wulf Fw 200 project.

Some larger exhibits are stored at nearby bases due to the present lack of space. A pair of twin-turboprop transports, a CASA Aviocar and a Fokker F.27 are held across the road at Cuatro Vientos Air Base.

An electronic countermeasures-configured Boeing 707 is at Getafe Air Base, south of Madrid. It is planned to mount this on top of one of the new hangars.

In the near future one of the last C-130 Hercules in service with the EdA will be brought to Cuatro Vientos, when the type is withdrawn as more of the Spanish-assembled Airbus Military A400Ms become available.

[www.museodelaire.com](http://www.museodelaire.com)

One of the museum's two CASA-built Ju 52s has recently been repainted by volunteers..  
ALL ROBERTO YÁÑEZ UNLESS NOTED

