



To celebrate the 60<sup>th</sup> anniversary of the “Instituto Tecnológico de Aeronáutica” (ITA), it is mandatory to recall to some facts that had preceded and influenced Lieutenant Colonel Aviator and Aeronautical Engineer Casimiro Montenegro Filho decision on creating the “Centro Técnico de Aeronáutica” (CTA), having ITA as its first institute.

Let’s start referring to the 1<sup>st</sup> National Congress of Aeronautics, sponsored by the Aeroclub de São Paulo in 1934. The idea of the Aeroclub with the congress was to discuss the technological and industrial possibilities of the country for the implementation of an aeronautical industry, and the main motivation and concern were the number of imported aircrafts flying in Brazil. From 1927 to 1934, the country had imported over 550 aircrafts.

During the Congress, the Army Lieutenant Colonel and Aeronautical Engineer Antonio Guedes Muniz presented the paper “The Building of Engines and Airplanes in Brazil”, suggesting the ways of implementing an aeronautical industry in the country. After the presentation of the paper, the engineer Ary Torres, director of Instituto de Pesquisas Tecnológicas (IPT), suggested the creation of a graduation course in aeronautics in São Paulo.

In other paper presented at the Congress, “Suggestions to Overcome the Problem of Building Aircrafts in Brazil”, Lieutenant-Commander and Navy pilot Raymundo Vasconcelos Aboim emphasized the need of preparing specialized human resources and creating a favorable environment for the development of research in aeronautics in the country, initially by means of technology licensing.

At that time, Captain Casimiro Montenegro Filho, graduated in 1928 from the first class of the Army Aviation course, was commitioned in São Paulo as Commander of the 2<sup>nd</sup> Aviation Regiment, certainly participated in the debates and concerns with the status of the Brazilian aviation and became aware of the first tries of producing aircrafts in the country.

As to recall, the first serial production aircrafts in the country were projects of Cel Antônio Guedes Muniz, the M-7 and M-9, and initiative of the “Indústria Brasileira de Aviação”, a subsidiary of the “Companhia Nacional de Navegação Aérea” (CNNA), in Campos dos Afonsos, Rio de Janeiro. The CNNA, founded by Henrique Lage in 1935, was in fact the first aircraft industry of Brazil.

In 1935, during the government of President Getúlio Vargas, a commission with representatives from the Army, the Navy and the Civil Aviation was established to study the localization of an industry for production of military aircraft. The chosen place was Lagoa Santa Minas Gerais, and the company, Construções Aeronáuticas S.A., was founded in 1939, and started its activities based on an industrial model that could only permit it to fabricate under license North-American aircrafts.

Concomitantly to the initiative in Lagoa Santa, an industrial installation was launched by the Navy in Ponta do Galeão, Ilha do Governador, Rio de Janeiro, in 1934. The “Oficinas Gerais da Aviação Naval” (OGAN) facilities were inaugurated in 1939, initially to assemble German aircrafts. The first aircrafts produced in OGAN were the Brazilian version of the Fockler-Wulf 44, the Pintassilgo, and the Fockler-Wulf 58.

Casimiro Montenegro left the 2<sup>nd</sup> Aviation Regiment in 1936. Later on, in 1939, he decided to get enrolled in the first class of the recently created course of Aeronautical Engineering at the “Escola Técnica do Exército” (ETE), current Instituto Militar de Engenharia (IME), in Rio de Janeiro.

With the creation of the Ministry of Aeronautics in January 20<sup>th</sup> 1941, Casimiro Montenegro left the Army and became part of the Brazilian Air Force.

Despite the comfortable situation of the Brazilian initiatives of projecting and producing aircrafts, the Minister Salgado Filho, first minister of the newly created Ministry of Aeronautics, was convinced that to accomplish completely with his double attributions – civil and military – his ministry had to follow and get enrolled on the new improvements and development of the aeronautical technology. In order to do that, the Air Force implemented the Aeronautical Technology Division as the Sub-Direction of Material in December 26<sup>th</sup> 1941, and the Lieutenant-Colonel Casimiro Montenegro Filho, recently graduated Aeronautical Engineer by the “Escola Técnica do Exército”, was assigned the head of it.

As predicting the collapse of the aeronautical industry of the country, Montenegro was considering the possibility of transforming the Sub-Direction of Material into an organization capable of accomplishing research that could sustain the development of

the aeronautical production and the airline industries. The existing private industries were producing small aircrafts with wood structure, with support of IPT. The industries established by the Government were enrolled in imported projects, like as was the case with OGAN and Construções Aeronáuticas S.A. However, Casimiro Montenegro wanted something bigger.

At the time of the creation of the Ministry of Aeronautics, the Brazilian Air Force (FAB) had 428 airplanes received from the extinct Army and Navy aviations. However, the huge technological advances of the aeronautical industry in the second half of the 1930s had made the majority of the FAB airplanes obsolete for the war that was coming over the Europe. During the World War II, from 1942 to 1945, by means of a North American program called Lend-Lease, the FAB received over 400 training aircrafts and over 500 operational ones.

It is a fact that, by the end of the World War II, the country had industrial facilities, machinery, tools and technicians, a patrimony built based on orders from the government, but it lacked technicians and engineers in a sufficient number to make the industries auto-sustainable and independent of government's orders to supply the civil or military needs. After the war, the government politics changed, apparently due to a neo-liberal orientation, and the orders from it fell to almost zero. The United States of America, having a great deal of airplanes in stock, had donated or sold their airplanes at symbolic prices. Those facts might have been the reason that prevented the development of the aeronautical industry in the country back then.

In few words, this was the environment in which Casimiro Montenegro and the pioneers that idealized CTA were living in the 1940s.

Not satisfied, in 1945 Casimiro Montenegro went to the USA with the lieutenant colonel and engineer Telles Ribeiro, the colonel aviator Faria Lima and a group of Air Force Officers to visit some airbases and the US Air Force Maintenance Facilities in Wright Field, Ohio. The Brazilian Air Force Major Oswaldo Nascimento Leal, who was attending the course of Aeronautical Engineering at the Massachusetts Institute of Technology (MIT), went to Wright Field to speak with the group. Leal suggested to Montenegro that he should go to Boston to know MIT and to talk to the Professor Richard Smith, head of the Aeronautical Department of that Institute, before making any decision on the model and type of scientific and technological institution to be submitted to the Air Force General Staff and to the Minister of Aeronautics. Major Leal had the opinion that the necessity in Brazil was a higher level school to graduate aeronautical engineers, with emphasis in civil and military aviation, and not only to take care of the Air Force needs. It would also be necessary to train engineers to indirectly support the correlate industries, as is the case of quality control of product and aeronautical material, certification of projects and prototypes, optimization of the operation of airline companies, etc.

The establishment of an institution with these patterns in South America had been a desire of Professor Smith for years, and a real necessity in Brazil in the vision of Colonel Montenegro. In August 1945, the general plan of the Technical Center of the Ministry of Aeronautics was finished, taking the MIT as a model. The plan was elaborated by Professor Smith under the orientation of Montenegro (It is said that Professor Smith had prepared a similar plan for Argentine).

The President of Brazil, Dr. José Linhares, approved the plan in November 16<sup>th</sup>, 1945. The Center would have two institutes – one directed to technical higher education, the ITA, and the other directed to research and cooperation with the industry, the “Instituto de Pesquisa e Desenvolvimento” (IPD). The Organization Committee of CTA (COCTA) was created on January 26<sup>th</sup> 1946.

In 1950, the basic infrastructure of ITA, the priority of Montenegro, was finished, and from that year on the courses of ITA, which had started at the ETE, in Rio de Janeiro, were transferred to CTA.

The CTA was considered organized in January 1<sup>st</sup> 1954, by the Decree nr 34,701 of November 26<sup>th</sup> 1953. ITA was finally formalized as a Higher Education Establishment under the jurisdiction of the Ministry of Aeronautics by the Law 2,165 of January 5<sup>th</sup> 1954.

Nowadays, ITA holds approximately 600 undergraduated students, over 1500 graduate students, and 540 students enrolled in non-degree courses. The institution has already graduated 5,312 engineers, out of which 905 were militaries, 2,545 masters, being 187 militaries, 369 doctors, out of which 21 were militaries, and 703 specialists, being 355 militaries. ITA plans to double the number of undergraduate students in five years time and to enlarge even more its field of action, without losing its main objective that is the airspace.

In these 60 years of existence, it is a fact that the contributions of ITA to aeronautical industry have made the dream of Montenegro and his followers come true, but they were also very important in fields such as telecommunications, automobile, space, air traffic, aeronautical infrastructure, banking automation, among others. The effort and the sacrifice of the pioneers were not in vain. Brazil, the State of São Paulo, the city of São José dos Campos and particularly the Aeronautics have gained a lot, and it is still gaining, with the teaching and research and development infrastructures implemented in São José dos Campos, São Paulo.