

# INTA – Instituto Nacional de Técnica Aeroespacial

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## Organisation profile

INTA is the Public Research Organization specialized in aerospace and vehicle research and technology development. Among its main functions it is worth mentioning: the acquisition, maintenance and continuous improvement of all those technologies that can be applied to the aerospace and surface transport field; Performing all types of tests to check, approve and certify materials, components equipment items, subsystems and systems that have an aerospace application; To provide technical assessment and services to official bodies and agencies, and also to industrial or technological companies; To act as a technological centre for the Ministries of Industry, Science and Defence.

## Main Green Cars activities: Products and Projects

**Transport Safety Technology and Vehicle Certification-Experimentation Centre:** Tests, studies and certification of motors and vehicles performance with respect to atmospheric pollution, power and fuel consumption. Also Passive and active safety. European Type Certification. Spanish Type Certification. Certification exemptions. Individual certification. Significant reforms. Track tests. We also take part in Spanish, European and international legislation development forums. In recent years INTA has specialized in developing Intelligent Systems (ITS) designed to enhance passengers and pedestrians' safety. New technologies to avoid accidents, either through systems that act on the vehicle itself or can be used to reproduce, analyse and correct, a priori, future sources of road hazards. First-class facilities designed chiefly for this purpose. Its test tracks and simulators afford comprehensive solutions for enhancing road safety by contributing to the development, analysis and virtual and real testing of new devices. Biofuels testing and synthesis from vegetal oil.

**Hydrogen and Fuel Cell Technology:** Characterization, testing and integration of "PEM-type fuel-cells" in power systems and plants. Hydrogen production system, based on reforming of gasoil, ethanol, or with electrolyzers. Hydrogen storage systems, at high pressure or in metal hydrides. Experience in testing of phosphoric acid and alkaline fuel cells. Institutional representation on national and international committees (International Energy Agency). Development of hydrogen technology regulations and standards and their applications.

**Products:** Tests compliant with official standards. Pollution emission tests (CO, HC and NOx) on spark ignition or compression ignition engines, light and heavy vehicles, and on motorcycles and similar vehicles. Solid particle emission and fume opacity tests on compression ignition motors and vehicles. Comparative tests of devices and additives developed to improve pollution emissions in engines and vehicles. Tests to determine liquid fuel consumption and CO2 emissions in passenger cars and light commercial vehicles. Tests to determine the characteristic curves in spark ignition or compression ignition engines, and in motorcycles and similar vehicles. Tests and inspections for Type Certifications of automobiles and trailers. Products in ITS as TCD (Technological Co-Driver) and SAI (smart overtaking system). Design of "a la carte" certification programs, according to the characteristics of the product to be certified, the manufacturers' needs, etc. The INTA cutting-edge test facilities are marketed in two different ways: as European certification of vehicles and also to give driving courses, hold events, etc; in a safe and secure environment, designed to reduce the number of car accidents by providing top-class coaching and training courses.

**Projects:** More than 50 Spanish and international customers: Ford, Isku Motor Ltd., Iveco, Montesa-Honda, Nissan, Santana, SEAT, Suzuki Spain, Volvo Car Corp., Yamaha Spain, etc.