



Assessorato all'Università e Ricerca Scientifica,
Innovazione Tecnologica e Nuova Economia,
Sistemi Informativi e Statistica



INTERNAZIONALIZZAZIONE DEI Centri Regionali di Competenza



FORMIT



CALEIDA
AGENZIA DI COMUNICAZIONI

Center of Competence for Transportation Systems – TEST (Technology Environment Safety Transport) S.c.a r.l.

TEST experiments, in real and virtual settings, the functionality of vehicles and their components, of infrastructure networks and of propulsion services and systems with a low environmental impact.

The Principal Outputs

Facility for Design in Virtual Reality (Design Support System)

This is a computerized system which develops virtual prototypes delivering a three-dimensional vision which enables the visualization of vehicles in full scale (1:1). The system allows for the interaction with the projected object through input instruments, like cyberglove, 5DT, spaceboard, flystick and joystick, thanks to a tracking system which utilizes cameras. The projection method utilized favours the rapid transformation from the original concept to the final form, removes the necessity of developing physical mock-ups and considerably reduces the time to market and the exorbitant costs of designing and developing each prototype and the subsequent modifications. For its characteristics and dimensions the plant is at the forefront in Europe.

Testing System on Large Full Scale Panels (Full Scale Testing)

This service is designed for the structural grading, characterization and certification of full scale vehicle components. The tests enable static and fatigue testing on whole sections of vehicles and panels in their real dimensions, removing the distortions typical of tests carried out on reduced scale models. Furthermore, they guarantee the optimization of the design phase and are fundamental for certifying the safety of an aircraft. The instrumentation used by the Centre drastically reduces the time to market: in the space of two months it is possible to simulate the strain which a train wheel truck would be subjected to in thirty years. The characterization is also extended to composite materials, such as those used in the building of the latest generation airplanes.

User, Vehicle and Infrastructure Behaviour Simulation (Integrated Road Safety System)

This integrated system simulates road traffic conditions analyzing the interaction between the various components of vehicular flow and driver behaviour in different scenarios. The system is equipped with a dynamic driving simulator, a mobile unit for the detection of driving parameters, a road traffic surveillance unit and a unit for the detection of the physical characteristics of infrastructures integrated with a micro traffic simulator. It constitutes a unique tool in that it represents a systematic approach to the road safety problem. The system is perfectly in line with EU regulation standards in terms of design and/or development of infrastructure. The know-how available for the development of similar centres is immediately transferable.

User Information and Traffic Simulation (Transport and Territory Information System)

This is an integrated service for gathering, elaborating, organizing, standardizing and analysing data from the multiple sources that enable the management of wireless communication between subsystems, the development of basic knowledge systems, the creation of traffic models, the contribution to the development of Design Support Systems (DSS) for the design and planning of territorial and transport systems. The service consists of an Intelligent Transport System (ITS) for monitoring and managing the fleet of vehicles destined for Local Public Transport and of a system of infomobility consisting of a hardware and software architecture based on packet-based data transmission standards which, benefiting from all the elaboration and modelling potential of the TEST Data

Sharing Centre, reduce the costs of data acquisition and dedicated software purchasing. The integrated system of the TEST Centre is unmatched in its high level of efficiency in terms of performance and results compared to existing solutions. The competences relating to the system developed can be transferred and used immediately.

Structure

TEST manages a wealth of equipment and instrumentation worth in the region €12million and coordinates and synthesizes the best vitality and competences in research and training in the field of regional transport, gained from its 200 researchers structured in 8 modern and efficient laboratories.

Even though the scientific competences are divided up into 8 laboratory facilities, TEST keeps centralized the coordination of marketing by operating in terms of Customer Relationship Management and maintaining a strategic capacity to preside over critical factors based on a market-oriented logic.

TEST avails of facilities dedicated to the development and the innovation of vehicles and their components, with state-of-the-art plants for numeric testing and virtual reality simulation activities in the field of concurrent engineering methods.

TEST has developed a production process, an absolute first in aeronautics, called *one piece barrel* on a Boeing 787. This has permitted testing on Boeing 747 panels of 4x2 metres in dimension. The tests were also carried out on the horizontal tail planes.

Potential Market

TEST outputs could be of interest to research companies, centres or bodies operating in the safe mobility sector, infrastructure design and planning engineering companies, motor industry businesses, leading businesses in the field of vehicles and, in particular, naval, land and aeronautic vehicle integrators or first level subcontractors of such businesses, and all government and territorial bodies responsible for the construction and management of road infrastructure.

Commissioning Bodies/Clients

Firema spa, Atitech Alenia Aeronavali, Selex Integrated Systems (Finmeccanica) SESM (Finmeccanica), CIRA, IMAST, Boeing Research Centre, Magnagli Aeronautics, Dema - Design Manufacturing Spa, Foxbit srl, Geven srl, Ori di Altini Luigi, MecFond SPA, Avio, Tecno in srl, MOTORI Institute, Laboratory of Aeroelasticity, Vibrations e Noise - Department of Aerospace Engineering - University of Naples Federico II, CINI, CRIAI, CNIT, EU for the "Clean Sky" project, Campania Region.

Technological Contact

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