

CRDC - TEST

MISSION

The CRdC TEST S.c. a r.l. co-ordinates and brings together the best research resources and capabilities in the transportation field of the Campania Region.

The strategy of the firm pursues the objective of the Regional Competence Centre for Transportation Systems: to raise the competitiveness of the transportation industrial sector and the relevant research system in Campania by developing laboratories and competences aimed at improving transportation systems and related services.

Specifically, TEST S.c. a r.l.'s mission involves:

- Carrying out pre-competitive and applied research activities in the fields of Technologies, Safety and Environment of transportation means and systems;
- Providing advanced engineering services for design, testing, simulation, modelling, certification and validation of transportation systems and components;
- Creating and managing dynamic data bases for traffic networks associated with data, image and traffic information processing procedures;
- Proposing and participating in transportation sector projects with public bodies and private businesses;
- Operating spin-offs and technology transfer activities;
- Providing high education activities in the field of transportation technologies.

GOALS

The main goals pursued by the TEST CRdC are the increase of safety and efficiency of transportation systems, as well as the reduction of the related environmental pollution. Hence the acronym TEST –Technology, Environment, Safety, Transport – assumed by this CRdC.

In order to achieve these ultimate goals the TEST CRdC activities are aimed, among others, at the following critical targets:

- improvement of propulsion chains, with reference to energetic efficiency and environmental impact, through the optimisation of engine control and the utilisation of innovative fuels.
- product and process innovations in the development of land, air and sea transport vehicles, through the implementation of advanced concurrent engineering practices carried out in Virtual Reality environment and the full-scale testing of innovative solutions (including the utilisation of innovative materials)
- technological innovation in the management of transportation infrastructures and related services, through the deployment of advanced technological infrastructures taking advantage of emerging information and telecommunications technologies.
- Development of advanced simulation systems capable of representing the complex interactions within a transportation system occurring among human beings, vehicles infrastructures, and management systems in order to assess safety issues and global efficiency.

ACTIVITIES

The activities carried out by the Centre of Competence TEST in order to achieve its goals consists of:

- Research activities, through the participation at reference research projects in the transportation field in collaboration with relevant industrial players
- Provision of Advanced Engineering Services and Technological Transfer activities, aimed at supporting Industrial and Public Administration innovation processes
- Provision of High Education Services, aimed at shaping highly qualified professional figures capable of managing and operating the emerging practices

The activities of CRdC TEST are dedicated to the three application areas (namely propulsion chains, vehicles and transportation systems) and to the different transportation industrial sectors:

- ◆ railways;
- ◆ aeronautics;
- ◆ road vehicles;
- ◆ naval transportations;
- ◆ transportation infrastructures and services;

STRUCTURE

TEST S.c.a.r.l. is a networked organisation integrating the research resources (laboratories and competences) relevant to the transportation field belonging to five Universities of the Campania Region, the Italian National Research Council and a Science & Technological Park. The initial constituency of experimental facilities has been complemented through the realisation of 12M€-worth new research laboratories, leveraging the competences of some 200 researchers, and structured as follows:

- **P – TEST: Qualification of propulsion chains**
 - **Power Train and Vehicles Laboratory** (Development of propulsion systems for the reduction of road traffic pollution)
 - **Transportation electrical systems and drives Laboratory** (Innovation for the development of electrified rail and urban transport systems)
- **V – TEST: Vehicles qualification**
 - Transport vehicles Laboratory (**Innovation in the design of terrestrial vehicles. Qualification and certification**)
 - Flight test and Flight Simulation Laboratory (Innovation in commercial and general aviation)
 - Hydrodynamics Laboratory (**Testing for advanced design of ship hydrodynamic**)
- **S – TEST: Transport management systems**
 - Road Safety Laboratory (**Innovative approaches for the management of road infrastructures**)
 - ITS (Intelligent Transport System) Laboratories (**ITS applications for advanced of transportation networks management**)
 - Transportation and Territory Laboratory (**Transportation and territory analysis**)

PROJECTS/PRODUCTS

Here follows some examples of projects and initiatives which have been carrying out by TEST S.c.a r.l. in collaboration with companies and other entities:

- A research project carried out in collaboration with railways and aeronautical vehicles manufactures (FIREMA Trasporti S.p.A. and PIAGGIO Aeroindustriues S.p.A. respectively) aimed at the development of innovative design processes and new production technologies for composite materials, including the realisation of test facilities for qualification
- The provision of testing services for the structural characterisation and qualification of transportation vehicles' full scale components (large fuselage panels per ALENIA Aeronautica S.p.A., railway bogies for FIREMA Trasporti S.p.A. and ANSALDO BREDA S.p.A.)
- The execution of simulations with an advanced driving simulator for research purposes and the signing of a memorandum of understanding with ACI and ANAS S.p.A. to explore possible applications of driving simulators to improve safety in road transportation.
- The launch of a joint venture with SOL S.p.A., Elasis S.C.p.a. for investigating technological solutions capable of improving performance of a small fleet of city-buses fuelled with hydrogen or hydrogen mixtures with other gases.
- The signing of memorandums of understanding with public administrations and local institutional bodies to launch a process of innovation in the management of local transportation networks, infrastructures and services.
- The setting up, in December 2006, of the consortium company SE.SA.MO S.c.a r.l. with CIRA S.c.p.A (Italian Aerospace Research Centre) , Selex S.I., Mizar S.p.A., the ME.SE. Inter-University Consortium and some small and medium-sized businesses for the application of information and communications technologies to the control and management of infrastructure and service networks. SE.SA.MO S.c.a r.l is part of the network of the MIT (Meridionale Inovazione Trasporti) Interregional Transport Competence financed by the M.U.R. (Italian Ministry of University and Research)

Contacts:

Via Nuova Agnano, 11
80125 Naples, Italy
info@crdctest.it, www.crdctest.it
President: Prof. Vincenzo Torrieri