IFSTTAR

TEST TRACKS AND INSTRUMENTED VEHICLES FOR RESEARCH ON INFRASTRUCTURE AND RISKS

Laboratory
Environmental **A**ssessment, **S**afety and **E**co-conception
Department Planning, Mobility and Environment

INTRODUCTION

Test tracks created in 1980 at Ifsttar Nantes

Many test areas on a 2300 m-long track: banked corner, straight sections, etc.

➔ Characterization of tire/road contact (skid resistance, noise, rolling resistance, unevenness)

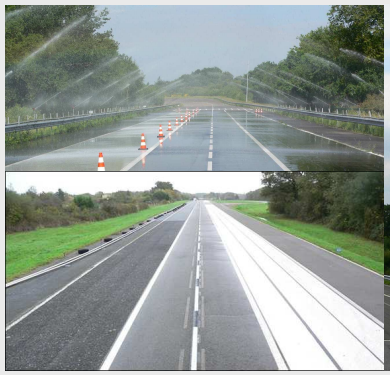
➔ Characterization of dynamic behavior of vehicles

➔ Modelling of fuel consumption

➔ Driver's trajectories

CHARACTERISTICS OF THE TEST TRACKS

- 15 test surfaces covering a wide range of microtexture and macrotexture (French road network, experimental boards for research)
- Sprinklers for wetting the test surfaces
- 2 weather stations (temperature, pluviometry, wind, etc.)
- Sensors for measuring water depths (Vaisala DSC111)
- Wi-fi access



MAIN ACTIVITIES

- **Research** projects
  - Experimental validation of models
  - Demonstrators

- **Verification** of test equipments
  - Auditors (qualifications)
  - Accreditations (airfield's friction monitoring)
  - Round robin tests
  - Calibration.

- **Contracts & expertises**

INSTRUMENTED VEHICLES

- Clio, Peugeot 406 and Laguna 3

- Vehicle's trajectory
  - GPS (X, Y, Z)
  - Correvit (Vx, Vy)
  - Inertial (gx, gy, gz)
  - Wheel encoder (angular speed)
- Braking distances

- Measuring wheel (torseur des efforts à la roue)
- Fuel consumption (flowmeter)

- Water depths (Aquasens)

Collaborations

GLiRGeC – Institut Ligérien de Recherche en Génie Civil et Construction
LTDS
COLAS
PENNSTATE
USTHB
Virginia Tech
THE UNIVERSITY OF AUCKLAND NEW ZEALAND

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