



IFSTTAR

Institut français des sciences et technologies des transports, de
l'aménagement et des réseaux

French Institute of science and technology for
transport, development and networks



Welcome ARRB delegation

4 June 2012

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Juin 2012



IFSTTAR

INRETS and LCPC merged on 1st of January 2011

- **Ifsttar: French Institute of Science and Technology for Transport, Development and Networks**
- **French State-owned research Institute under the authority of two ministries**
 - **Ministry for Higher Education and Research**
 - **MEDDTL: Ministry of Ecology, Sustainable Development, Transport and Housing**
- **A Board of Directors (Conseil administratif)**
 - **Members of ministries, industries, research organisations etc.**
- **A Scientific Board (Conseil scientifique)**
 - **Members of ministries, industries, research organisations etc.**



A long history of collaboration

- **INRETS and LCPC**
 - Two previous French State-owned research Institute under the authority of the two ministries
 - have shared several research projects for years:
 - LCPC was specialised in civil engineering
 - INRETS was focused on research on transport and transport safety
- **Road was a shared research topic with *Joint Research Units***
 - LIVIC (Vehicles-Infrastructure-Drivers Interaction)
 - LEPSIS (Management, perception, simulation and driving simulators)
- **Through their merger the two research institutes will continue to build on their previous partnerships so as to put their shared knowledge to the use of the cities and roads of tomorrow**



Ifsttar's missions

- **Conduct applied research projects**
- **Producing expert appraisals or offering consulting services on the national and international levels**
- **Ensure the co-ordination with international research and promote French techniques abroad**
- **Promoting innovation transfers**
- **Developing certification and standardisation activities**
- **Helping in the establishment of technical guidelines and public policy**
- **Overseeing knowledge dissemination efforts**
- **Contributing to advances through training and research**



Conduct, mandate, steer, evaluate...

- **Research, development and innovation activities**
 - Combining theory, models, laboratory experiences and on site measurements
 - In the fields of
 - Urban engineering
 - Civil engineering and building materials
 - Natural hazards
 - Mobility of people and goods
 - Transport systems and means and transport safety
 - Infrastructure, their uses and their impacts
- **Considered from various angles:**
 - Economic, Technology, Society, Health, Energy, Human



Productions and beneficiaries

- **Beneficiaries: all stakeholders**
 - Public authorities
 - Infrastructure owners and managers (public and private)
 - Engineering companies
 - Construction companies
 - Materials and equipment producers
- **Output:**
 - Knowledge
 - Methods
 - Software
 - Measurement and trial devices

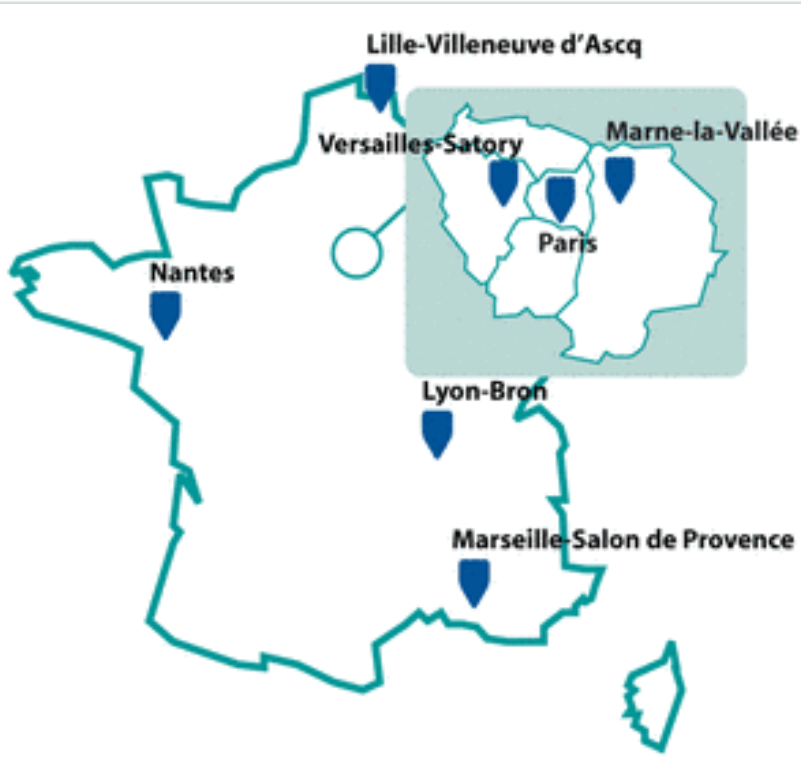


Ifsttar in a few key figures

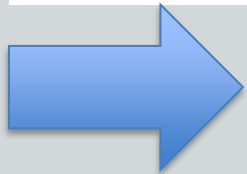
- **1250 staff** (including 250 PhD students)
- **9 site locations** (8 by the end of 2012)
- **25 research units** - 7 joint research units (with Universities or other R&D entitites)
- **77 doctoral theses defended in 2010**
- **A budget of € 120 M (2011 and 2012)**
- **€ 15 M generated in revenue from research contracts**
- **65 European projects in FP7**
- **76 patents**
- **21 software applications and active licences**
- **350 publications in international publications (2010)**
- **50 outstanding research and test facilities**



9 location sites



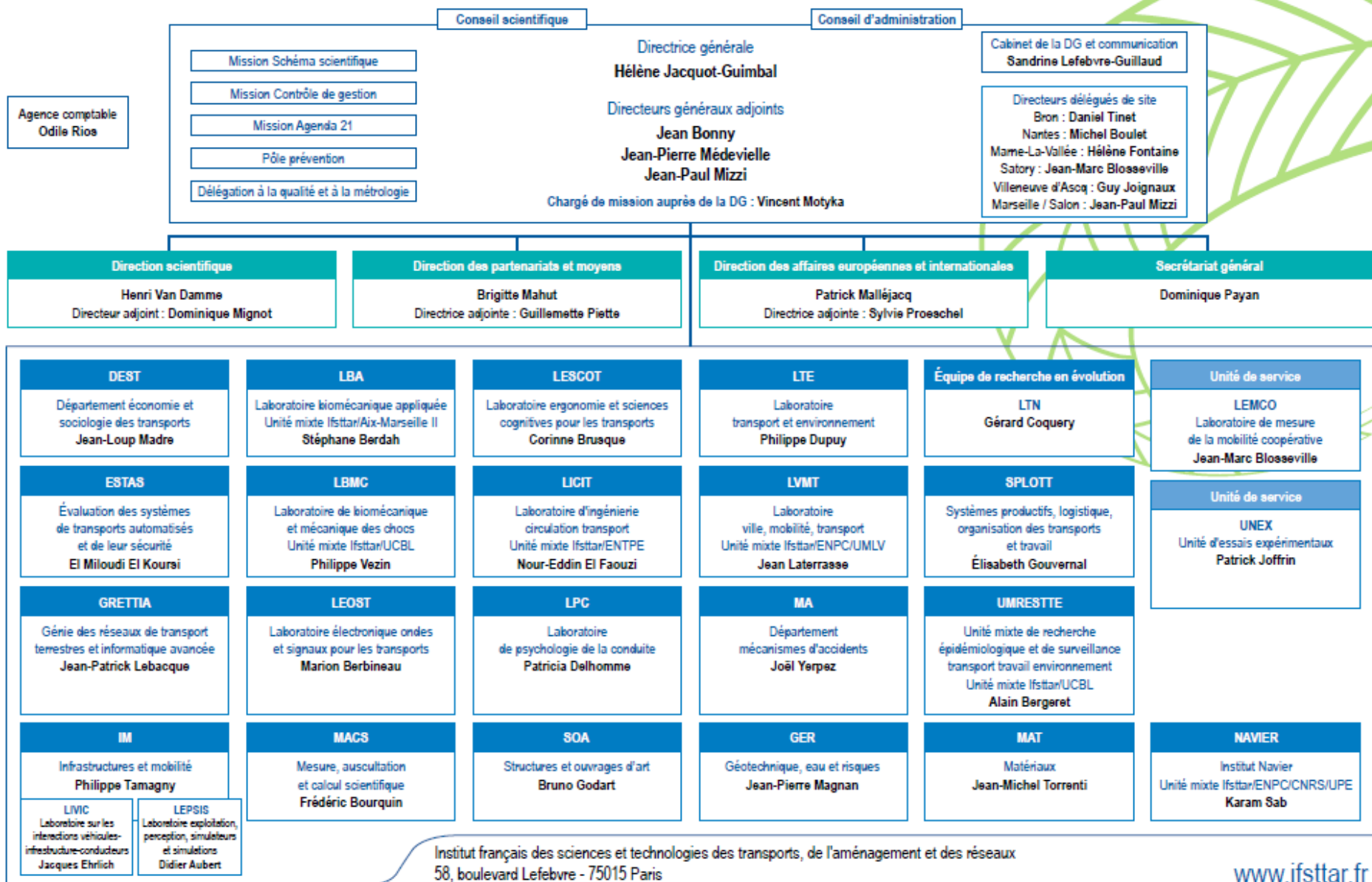
- Lyon / Bron
- Lille / Villeneuve d'Ascq
- Marne-la-Vallée / Noisy
- Marseille / Salon-de-Provence
- Nantes
- Paris (to be closed end 2012)
- Versailles - Satory



On every site : a delegate directorate, a delegate general secretariat etc...

And a few researchers in Grenoble (Alps region) and Belfort (eastern part of France)






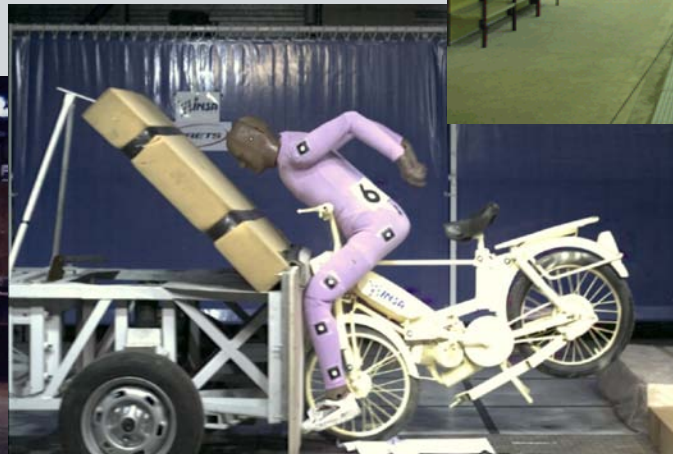
Some outstanding facilities (1)

- Pavement fatigue carousel
- Material mixing test facility
- Reference track for characterization of pavement surfaces
- Block fall test Facility →
- Geotechnical centrifuge & earthquake simulator ↘
- **Semi-anechoic room** →
- Structures laboratory and cable fatigue testing bench ↓



Some outstanding facilities (2)

- Magnetic Resonance Imaging (MRI)
- Grenoble wheel 
- Driving simulators
- Testing vehicles
- Horizontal crash test facility
- Catapults
- Etc.



Five subsidiaries

- **ERT (Europe Recherche Transport)**
 - Helps researchers build effective proposals and efficiently manage projects
www.ert-sas.fr
- **LIER (Laboratoire d'Essai de l'Inrets des équipements de la Route)**
 - Tests road safety equipments
www.lier.fr
- **CITIOLOG**
 - Videosurveillance solutions for ITS, security and safety
www.citilog.com
- **CIVITEC**
 - Sensor modelisation and simulation for the automotive industry
<http://www.civitec.com>
- **LCPC Experts**
 - High level expertise
www.lcpc-experts.fr



Ifsttar's strategy

- **Ifsttar has launched three strategic analysis processes**
- **Ifsttar's identity: « Imagine Ifsttar »**
 - Will build a shared vision for our institute between our staff and our partners : « Imagine Ifsttar »
- **Scientific strategy**
 - Take stock of societal challenges and their predictable evolution
 - Take stock of scientific & behavior breakthroughs
 - Ensure the place of research in an European and international perspective
 - Will cover the next ten years
- **Future framework contract with our two ministries**
 - Will cover years 2013-2016
 - Due end of 2012



Ifsttar's international strategy

- **Research: necessarily programmed, delivered, published and evaluated internationally**
- **Ifsttar's aim: to be a key player**
- **Ifsttar's international strategy: several objectives**
 - **Contribute to the scientific excellence of the institute**
 - **Develop relations with peer institutes especially in OECD countries**
 - **Complementarities and synergies**
 - **Look for European & International grants and fundings**
 - **Contribute to the building of the European Research Area**
 - **Take an active part in Transport Research European alliance building**
 - **Support French companies in their international activities**
 - **Favor the international mobility of researchers**
 - **Help developing countries develop efficient road safety policies**



Ifsttar, a major player of the European Research Area

- **European associations**
 - ECTRI, European Conference of Transport research Institutes
 - FEHRL, National Road Research Centres in Partnership
 - ERSI, Forum of European road safety institutes
 - ERTICO (ITS)
 - ELGIP , European Large Geotechnical Institutes Platform
- **6 Networks of Excellence**
 - ✓ HUMANIST (HMI for ITS), VPH (Virtual Human Person),
 - ✓ NEARCTIS (Advanced traffic management),
 - ✓ ISN (Integrated Safety for road vehicles),
 - ✓ HYCON2 (hybrid systems approach to the design of networked embedded control systems),
 - ✓ EURNEX (Rail)
- **European technological platforms**
 - ERTRAC, European Road Transport Research Advisory Council
 - ECTP, European Construction Technology Platform & E2B
 - ERRAC, European Rail Research Advisory Council
- **Partner of 60 Framework programme European projects**



...and of the international research community

- **Ifsttar takes part in the activities of numerous and diverse scientific or technical bodies**

- AIPC – IABSE, International Association for Bridge and Structural Engineering
- RILEM, International Union of Laboratories and Experts in Construction Materials, Systems and Structures
- FIB, International Federation for Structural Concrete
- SIMSG – ISSMGE, International Society for Soil Mechanics and Geotechnical Engineering
- NANOCEM, Nanoscale Research on Cement and Concrete
- etc.

- World Road Association (AIPCR – PIARC)
- OCDE-FIT (OECD - International transport forum)

- ☞ **Distinctions and awards of researchers and projects**



Ifsttar and its Australian partners

- Cooperation improved with several universities/institutes:
 - MUARC/MONASH
 - ARRB (2 persons « seconded » from Ifsttar : Dr Didier Bodin,...)
 - QUT + CARRS Q
 - UNSW (1 person « seconded » from Ifsttar : Pr Mike Regan)
 - Adelaide University
 - UNISA
- Common events, workshops & projects
 - Australian/French symposium held at Brisbane Sept. 2011 (ARRB represented by Carlos Rial)
 - Marie Curie European project « OPTIMUM »
 - FASIC call for young researchers applications March 2012



Research in France: an evolving context

- **Our two ministries encourage a deeper structuring**
 - of research
 - of technology and expertise
- **National research and innovation strategy**
 - Managed by the Ministry for Higher Education and Research
 - The process involves about 600 key experts
 - Three main focus areas
 - Health, well being, food and biotechnologies
 - « Environmental emergency » and eco-technologies
 - Information, communication, nano-technologies
- **Trends:**
 - **Cluster research centers**
 - Bring research and training/education closer together
 - Bring public research and the private sector closer together
 - Interdisciplinary
- **Ifsttar:**  Numerous projects of the National Research Agency
 Awards of researchers and projects



Ifsttar's roots in the regions: local public and private partnerships

- **Competitiveness clusters (70 > in France)**
 - Between public research and industry on a specific theme
 - Regional in scope but with national or international ambitions
- **PRES: Research and higher education groups**
 - Between public research bodies; regional scope
- **Research and higher education groups**
 - Interdisciplinary scientific and technological groups
- **Relations with the industries**



Ifsttar is a member of 10 competitiveness clusters

- **Mov'eo : R&D, Cars and Public transports,**
- **Advancity : Sustainable City and Urban Eco-technologies**
- **LUTB-Lyon Urban Truck and Bus : Urban Collective Transports, People and Freight**
- **I-Trans : (Wordl class) : Sustainable Transport**
- **PGCE : Civil Engineering & Construction**
- **EMC2 : Complex Metal & Composite Assemblies**
- **Pegase : Invent the sky of to-morrow**
- **Eurobiomed : Biocluster Mediterranean Biotechnologie & Health**
- **Management of Territory Risks and Vulnerability**
- **SCS : Secured Communication Solutions**



Ifsttar also belongs to public research regional and national groups

- **6 PRES: thematic R&D (regional)**
 - **Universities:**
 - « Université Paris-Est »
 - « Université Nantes Angers Le Mans »
 - « Aix Marseille université »
 - « Université de Lille Nord de France »
 - « Université de Lyon »
 - « Université de Grenoble »
- **2 PST: interdisciplinary R&D (regional)**
 - To tackle the major societal challenges of tomorrow
 - PST Paris East « Sustainable City »
 - PST Rhône Alps « People & Freight Mobility»
- **2 Alliances: between public research organizations**
 - Thematic, *National* scope
 - ALLENI (environment)
 - ALLISTENE (information and communication technologies)



Transport Research Arena 2014

- **TRA is a European multimodal innovation conference**
 - Tackles all modes of surface transport
 - Innovation, research and implementation
- **Every other year**
 - Göteborg, Sweden in 2006
 - Ljubljana, Slovenia in 2008
 - Bruxelles, Belgium in 2010
 - Athens, Greece, 23 to 26 April 2012
- **TRA2014 (Transport Research Arena) will be organised in Paris in April 2014**
 - By Ifsttar under a mandate from the MEDDTL ministry
 - Ambition: 3000 delegates
 - Cluster of networked events



Thank you for your attention

Ifsttar

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