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**Funding, Programming, and
Governance issues in International
transport cooperative research**

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Final Conference

**October 9th, 2013,
Brussels, Belgium**



FP7 Project n° 285305
Call FP7 – TPT – 2011 – RTD – 1
Activity code: TPT.2011.3 - 1





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Presentation Focus on

- *Research Focus at CRRRI*
- *Funding Issues*
- *Programming*
- *Governance issues*
- *Possible Research Areas*
- *Summary*





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CSIR-Central Road Research Institute (CRRI)

- *One of the 40 Labs of CSIR (only R&D Lab in Transportation)*





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CSIR Network of R&D Laboratories

1. CSIR HQRS, New Delhi
2. Advanced Materials and Processes Research Institute (AMPRI), Bhopal
3. Central Building Research Institute, Roorkee
4. Centre for Cellular & Molecular Biology, Hyderabad
5. Central Drug Research Institute, Lucknow
6. Central Electrochemical Research Institute, Karaikudi
7. Central Electronics Engineering Research Institute, Pilani
8. Central Food Technological Research Institute, Mysore
9. Central Glass & Ceramic Research Institute, Kolkata
10. Central Institute of Medicinal & Aromatic Plants, Lucknow
11. Central Institute of Mining and Fuel Research, Dhanbad
12. Central Leather Research Institute, Chennai
13. Central Mechanical Engineering Research Institute, Durgapur
14. CSIR Centre for Mathematical Modelling & Computer Simulation, Bangalore
15. **Central Road Research Institute, New Delhi**
16. Central Scientific Instruments Organisation, Chandigarh
17. CSIR Madras Complex, Chennai
18. Central Salt & Marine Chemicals Research Institute, Bhavnagar
19. Institute of Genomics and Integrative Biology, Delhi
20. Institute of Himalayan Bioresource Technology, Palampur
21. Indian Institute of Chemical Biology, Kolkata
22. Indian Institute of Chemical Technology, Hyderabad
23. Indian Institute of Petroleum, DehraDun
24. Indian Institute of Integrative Medicine(IIIM), Jammu
25. Indian Institute of Toxicology Research , Lucknow
26. Institute of Microbial Technology, Chandigarh
27. Institute of Minerals and Materials Technology(IMMT), Bhubaneswar
28. National Aerospace Laboratories, Bangalore
29. National Botanical Research Institute, Lucknow
30. National Chemical Laboratory, Pune
31. CSIR Unit for Research and Development of Information Products,Pune
32. National Environmental Engineering Research Institute, Nagpur
33. National Geophysical Research Institute, Hyderabad
34. National Institute for Interdisciplinary Science & Technology, Thiruvananthapuram
35. National Institute of Oceanography, Goa
36. National Institute of Science Communication And Information Resources, New Delhi
37. National Institute of Science, Technology And Development Studies, New Delhi
38. National Metallurgical Laboratory, Jamshedpur
39. National Physical Laboratory, New Delhi
40. North - East Institute of Science and Technology, Jorhat
41. Structural Engineering Research Centre, Chennai



Schematic diagram. Not to scale





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CSIR India

➤ *Leaders*

■ *Dr. Manmohan Singh (President-CSIR)*

➔ *Prime Minister of India*



■ *Shri S.Jaipal Reddy (Vice President, CSIR)*

➔ *Minister of Science and Technology*
Minister of Earth Sciences



■ *Prof. Samir K. Brahmachari*
(Director General - CSIR)



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CSIR-CRRI Mandate

➤ *Quality Policy*

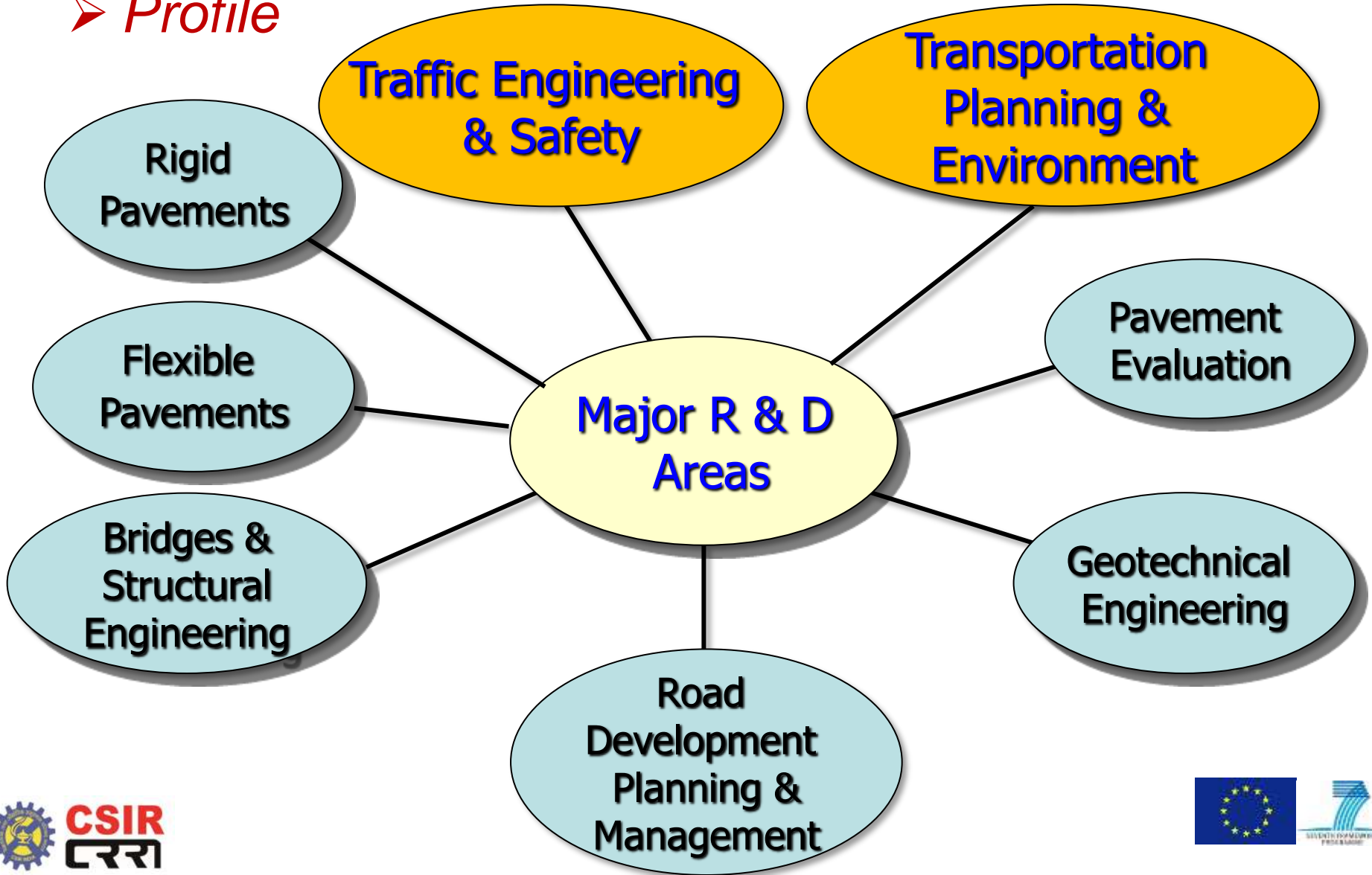
- *The Central Road Research Institute (CRRI) endeavours to develop Professional Excellence in the area of Roads and Road Transport and to undertake Research & Development (R&D) Programmes, Consultancy Services and HRD Programmes to evolve appropriate solutions to the diverse technical problems faced by the profession*



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CSIR-CRRI

➤ Profile





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CSIR-CRRI

➤ *Funding*

- *Government of India*
- *Planning Commission, Government of India through Five Year Plan Projects*
- *Funding Agencies (DST, MoRTH etc.) for Research Projects*
- *External Cash Flow through Consultancy Projects*

➔ *Ministry of Road Transport & Highways (MoRTH), National Highways Authority of India (NHAI), Ministry of Rural Development (MoRD), Ministry of Environment & Forests (MoEF), Border Roads Organization (BRO), E-in-C's Branch, Ministry of Defense, Central Public Works Department (CPWD), Private Sector Industries, Public Works Departments of States and Union Territories, Airport Authority of India, Road Research Laboratories of State PWDs, Municipal Corporations, Town Planning Departments, Urban Development Authorities, Public Sector Undertakings, Traffic Police Departments, Private Consultants and Individuals*



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International Collaborations

- *SIMBA*
- *SIMBA 2*
- *TRL (Joint Proposal)*
- *Netherlands (ITS)*
- *VICRoads (Road Safety Audit)*
- *World Bank (Road Safety Audit)*
- *Indo US Scientific Technology Forum*
- *EUINEC*
- *JARI(Japan)*



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Funding Issues

- *Joint collaboration projects with full funding from one side is difficult to materialize the project*
- *50% Funding from India and 50% from Participating country (equal funding)*
- *Projects sharing Human Resources and Intellectual inputs may have highest probability*



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Funding Issues: How to improve

- *Project sharing Human Resources may have high probability*
 - *Human resources exchange to start with and subsequently identify the project needs and frame the proposal*
 - *TNO, Netherlands case study*



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Governing Issues

- *Difficulties in information and data sharing (language barriers, high cost of participation in international events)*
- *Lack of properly funded (international) research programmes*
- *Non Existence of clear value added for Indian industry or research community*
- *Lack of interest of key stakeholders in R & D*
- *Need to undergo so many formalities and approvals*



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Governing Issues: How to Improve

- *MOUs (with clear mandate of the project)*
 - *Finalisation of clear and ambiguity free MoU between the organisations*

- *Clarity regarding IPR Issues*
 - *Recognition of the contributions made by the individual scientists*

- *Need of Sensitivity Clearance*
 - *Clearly defined objectives and scope of the work*



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Programming

- *Clear understanding and appreciation of the problem*
- *Need of the study and its applications*
- *Joint interest of both organizations with respect to their countries*
- *Identification of stake holders and their active participation*
- *Define exact role and activities of the organizations*



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Research in association with EU/ ERA

- *Association with EU/ ERA countries in carrying out research in transportation which is of interest for both countries*
 - *Implementation of ITS technologies*
 - *Sustainable Transportation Systems*
 - *Traffic Flow Modelling under Heterogeneous and Indian Driving behaviour*
 - *Road Safety*
- *Preparation and submission of research proposals pertaining to the context of India to the various funding agencies*



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Possible Areas of R & D Collaboration

- *Development of Electronic Road Pricing System along with Air Polluter Sensors and Overloading Sensor*
- *Highway Landslide Hazard Information Management, Risk Evaluation and Forecasting System*
- *Intelligent Transportation Systems (ITS) for Environmentally Sustainable Development of Cities.*
- *Investigation of Causative Factors for Increase in Accidents on the Upgraded National Highways*
- *Road Asset Management*
- *Real Time Monitoring of Speed, Fatigue and Reaction of Drivers*
- *Fuel Economy Standards for Heavy duty Vehicles (HDV) and Technology Changes for India.*

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Summary

- *Joint collaboration projects*
- *Projects sharing Human Resources and Intellectual inputs*
- *Non Existence of clear value added for Indian industry or research community*
- *Lack of interest of key stakeholders in R & D*
- *Joint interest of both organizations with respect to their countries*
- *Identification of stake holders and their active participation*



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Thanks for your attention

