



## Institutional framework for integrated research on infrastructures, landscapes and biodiversity

### ITTECOP is a multi-disciplinary research programme on infrastructures, landscapes and biodiversity.

The French Ministry for Ecology, Sustainable Development and Energy (MEDDE) created ITTECOP in 2008. ITTECOP is a multi-disciplinary research programme that explores infrastructure issues (affecting river, rail, energy and road transport, as well as regional interfaces such as train stations, ports and airports) with respect to landscapes in the regions concerned. This may include spatial and temporal dimensions, regional governance issues or ecological factors. ITTECOP hopes to help develop a lasting research community that evaluates the impacts of land-transport infrastructure (LTI).

### ITTECOP anticipates public decision-making needs in the fields of infrastructures, landscapes and biodiversity.

ITTECOP is producing a unique research framework focused on effects and interactions between landscapes, biodiversity and infrastructures. The programme's challenge is to develop a research production framework in the fields of infrastructures, biodiversity and landscape from initial studies to the transfer of knowledge.

### Aims

The programme focuses on infrastructural projects in all their diversity, covering all types of infrastructure (rail, river, road and energy) and their interfaces with territories. The programme aims to:

- **Support public policy:** scientifically innovative projects produce and transfer knowledge (methods, tools and new reflective approaches) to operators and stakeholders.
- **Combine scientific and technical knowledge:** projects aim to match scientific knowledge produced by researchers with the needs of people working in the field.
- **Take into account landscaping, ecosystemic and socioeconomic factors:** projects aim to understand how areas covered by linear transport infrastructure modify landscapes and ecosystems, and how these changes affect societies and their temporal and spatial organisation. This involves expertise from several different disciplines: natural sciences, human and social sciences and engineering.

### Scientific facilitation

Special attention is paid to the scientific facilitation of the programme and to optimising research projects in order to ensure knowledge is transferred to public-policy actors, researchers and practitioners. For this purpose, ITTECOP's first scientific results were published in 2013 and a web documentary released.

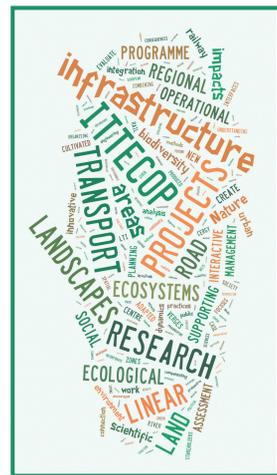
### ITTECOP's website: [www.ittecop.fr](http://www.ittecop.fr)

The website, which is regularly updated, provides information on projects (all research is online) and the programme.



### Web documentary

This educational and interactive web documentary, featuring thematic and regional videos and interviews, gives viewers a closer look at projects and the programme, and provides easy access to work in progress.



### Research focuses

Since ITTECOP was created in 2008, it has supported 28 research projects. Focusing on the relationship between landscapes, ecosystems and infrastructure, the funded projects fall under the following areas of research.

- **Regional planning**  
How are new landscaping constraints and land planning concerns integrated into regional projects? What are the consequences of technical and economic choices in a given physical, political and societal environment? Why and how should stakeholders be involved in drafting regional projects?
- **Ecosystems and landscapes**  
How do infrastructures have an interactive and retroactive effect on living spaces and natural environments? What conditions are necessary for viable interaction between areas affected by linear transport infrastructure, landscapes and ecosystems? How can infrastructure play a role in the ecological continuity of green and blue belts?
- **Prospective analyses and innovation**  
How can prospective analyses be used to help incorporate infrastructure into regions and assess its degree of reversibility? What is the future of areas affected by linear transport infrastructure given changing ecological, social and political contexts? How can areas affected by linear transport infrastructure adapt to increasingly important ecological constraints?

### Programme governance

The ITTECOP programme is managed by two authorities: a scientific board and a steering committee. The multidisciplinary scientific board sets scientific guidelines, prepares calls for research proposals, evaluates reports, and carries out programme facilitation and dissemination actions. The steering committee is in charge of defining the programme's orientations and identifying priority research proposals, in addition to taking part in programme facilitation, evaluation and optimization actions. It gathers representatives of the Ministry of ecology and representatives of public or private agencies and infrastructure operators.

### ITTECOP abroad

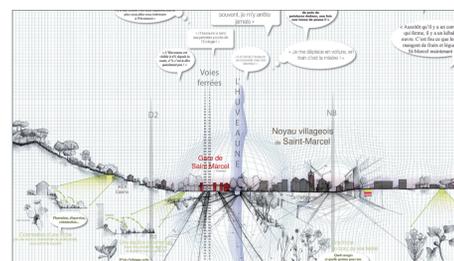
As part of the European research programme Horizon 2020, ITTECOP encourages and supports national research teams answering European calls for projects.

### Contacts

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### First scientific results

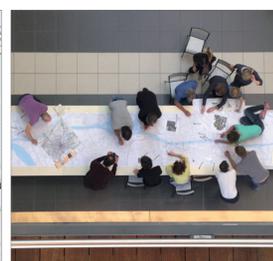
The book « *Infrastructures de transports terrestres, écosystèmes et paysages – Des liaisons dangereuses ?* » (Land Transport Infrastructure, Ecosystems and Landscapes – Dangerous Liaisons?), which was published in 2013, aims to present knowledge acquired by 8 projects launched in 2008 on the subject and encourage dialogue between researchers, politicians and operators.



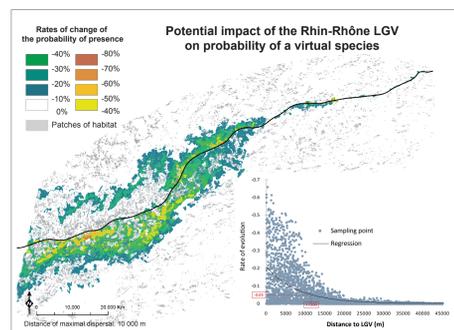
Excerpt from cross transect Valley Huveaune up to St. Marcel. Pooling and gathering of collected data, from D-TRANSECT / LAREP, LPEP, CRESSON, COLOCO, BAZAR URBAIN, ZOOM.

### ITTECOP in figures

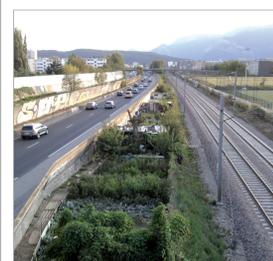
- 4 millions € in grants
- 21 research projects and 7 exploratory projects
- 16 associated operational projects
- Since 2008, 10 seminars and conferences
- 900 contacts kept up to date with the latest news



Long table held with stakeholders and residents on the Place Jean Jaurès in Saint-Marcel (Marseille), June 16, 2014, from D-TRANSECT / LAREP, LPEP, CRESSON, COLOCO, BAZAR URBAIN, ZOOM.



© Xavier Girardet, 2013, from Graphab project, Laboratoire Théma UMR 6049, Université de Franche-Comté/CNRS. Référence : Xavier Girardet, Jean-Christophe Fotté, Céline Clauzel (2013) Designing a graph-based approach to landscape ecological assessment of linear infrastructures, 10-17. In *Environmental Impact Assessment Review* 42 (1).



Perspective on wild gardens of Saint-Martin d'Hères (38), from Nature-Route project © Grégoire Cheikoff.

### RESEARCH PROJECTS 2014

- CIRFE-CUMUL • Multiple linear land transport infrastructures and ecological functional relationships
- COMPILSA • Compensation and linear infrastructure: strategies and scenarios for action
- DYNARP • The dynamics and management of Japanese knotweed from a landscape perspective: impacts and observations
- INEDIT • Incorporating ecology and biodiversity into public decision-making on transport infrastructure
- POLLINAIRE • Using verges in land transport infrastructure to preserve and spread wild pollinators
- RENATU • An analysis of renaturation processes in dense urban areas in connection with urban linear transport infrastructure: the example of the Métropole du Grand Paris
- TGB • Between grey and blue belts: the reciprocal impact of linear land transport infrastructure and river corridors on the structure and dynamics of plant biodiversity

### EXPLORATORY RESEARCH PROJECTS 2014

- ANIMAL-ILTe • Using necrophagous arthropods as indicators of animal mortality connected with linear transport infrastructure
- InfraLin-Dynpop • The population dynamics of fauna in areas bordering linear land transport infrastructure
- IRCC • Cultivated road-field interfaces: does the adaptive management of roadside verges create self-propagation problems in cultivated fields?
- PEP • Combining landscaping practices and ecological knowledge to implement a regional biodiversity project: the example of areas covered by linear transport infrastructure and their expansion
- RHIZU • Managing heavy runoff around a rail network to help create wet zones with ecological potential
- SCOP-SAGNE • Correcting disruptions to water flows supplying wet zones: current knowledge and practices
- SERV-ECO • Can evaluating the ecosystem services of green verges in linear transport infrastructure help when developing biodiversity measures that are adapted to project managers' budget constraints and social uses?

### RESEARCH PROJECTS 2012

- D-TRANSECT • Those left behind as a result of the Huveaune Valley crossings: species dispersal, vernacular practices and the mediation of landscapes
- ECOFRICH • The ecological and social future of zones – wastelands, housing and cultivated areas – surrounding the Great Stadium of Lille Métropole. An analysis of planned LTI, urban operations and alternative solutions
- GRAPHAB 2 • Using landscape graphs to evaluate and mitigate the impacts of major transport infrastructure on species
- IMPACT • LTI and landscape modelling as part of an ongoing appraisal of regional impacts
- Jumelage-ITT • Evaluating the effects of dual LTI on how the region functions and is viewed
- NATURE-ROUTE 2 • Nature alongside roads – 2
- PLATEFORMES • Multimodal transport and service centres : Delta 3 - Dourges, Canal Seine Nord Europe, Eterpigny-Barleux

### RESEARCH PROJECTS 2008

- BIEN-ETRE • Environmental well-being, quality of life and land-sensitive relationships. Improving landscape integration and understanding the living environment to improve the social approval of large land-transport infrastructure.
- CERGY • Road infrastructures, landscapes and ecosystems: Methodological research based on the road projects in progress on Cergy-Pontoise civil parish territory : the case of the roads projected in the Cergy-Pontoise area. Join for an update and innovative project the provision of knowledge, social demand from stake-holders, impacts assessment and the search for sustainable urban planning logical integration of the knowledge, social expectations, impact assessment and thinking on a sustainable project.
- GRAPHAB • Landscape graphs and assessment of the impact of the high-speed Rhine-Rhone railway line on the spatial connectivity of habitats: consequences on species distributions.
- INTERMOPES • Railway and road land-transport infrastructure and changes induced in the landscapes, ecosystems and society: Analysis and proposal for methods and operational instruments.
- LYNX • Developing a model to diagnose interactions amongst landscape structure, land-transport infrastructure and emblematic species: Case of the lynx in the Jura Mountains.
- NATURE-ROUTE • Nature on the side of the road : The case of community gardens in the greater Grenoble area.
- OFP - What will become of the local railway-transport infrastructure? Study and perspective on the local railway operator of the Centre region.

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MORE DETAILS ON  
[www.ittecop.fr](http://www.ittecop.fr)



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