Cross-border resilience and interoperability: logistics corridors as hotspots

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FOREWORD

RESEARCH TEAMS AND ACTIVITIES AT IMT MINES ALÈS

3 research centers and 6 research teams

C2MA Materials

CREER Environnent and Risks CERIS Computer science

PCH : POLYMERS, COMPOSITES, HYBRIDS

CIVIL ENGINEERING

(WITH UNIVERSITY OF MONTPELLIER AND CNRS)

INTERACTION BETWEEN MATERIALS AND ENVIRONMENT (WITH UNIVERSITY OF PAU AND CNRS)

RESOURCES AND HYDROSCIENCES

(WITH UNIVERSITY OF MONTPELLIER AND CNRS)

DIGITAL HEALTH IN MOTION

(WITH UNIVERSITY OF MONTPELLIER)



Key figures

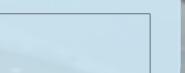
Research

- 85 Professors and associate-professors
- 92 PhD students
- **3** Research centers
- 137 international publications (rank A)
- 3 M€ partnership contracts

Economic development

IMT Mines Alès

- 1 916 Partner companies
- 1st created incubator in a school of engineering (1984)
- 20 projects/year (average value)
- 200+ created start-up till now (1000 jobs)
- 88 % 5-year survival rate



An interdisciplinary research team mobilized for Eixo Capricórnio



Claudia Enrech Architect, educational sciences Vincent Chapurlat Interoperability, Complex system engineering

Jérôme Tixier Risk analysis, risk assessment Greg Zacharewicz Computer engineering Aurelia Bony-Dandrieux Risk analysis, risk assessment Juliette Cerceau Territorial ecology, socioecological interactions



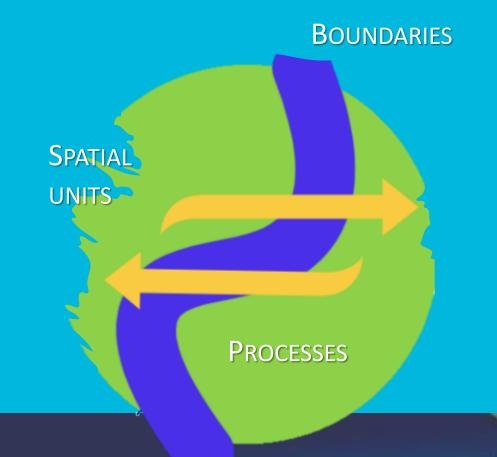




CONTEXT

GLOBAL CHANGES, FRONTIERS AND LOGISTIC CORRIDORS

Frontiers and logistic corridors as interfaces



Global changes challenge frontiers:

- The effects of climate change do not stop at administrative borders;
- The logistics of material, energy and information flows transcend national boundaries;
- **Citizens' aspirations** in terms of governance question the intra and international scales;
- Etc.



Cátedra Araucária de Desenvolvimento Territorial Sustentável

RUMBACAO ARAUCIAN

Frontiers and logistic corridors as hotspots for transition ?



Agriculture and food

How to harmonize cross-border agricultural and food policies consistent with the challenges of ecological transition?



Biodiversity and environment

How to preserve cross-border ecological continuities ?



Energy and low carbon transition

How to foster cross-border energy solidarities ?



Solidarity and buen vivir

How to express cross-boarder multicultural diversities ?



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Transprot and mobility

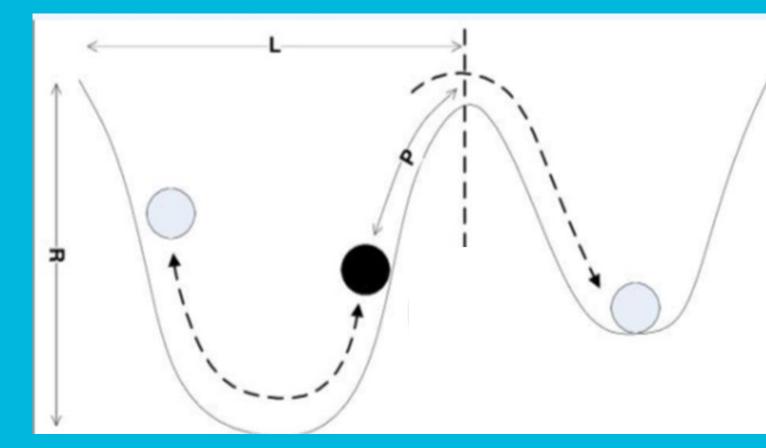
How to make crossborder mobility more fluid ?



FROM THEORY TO PRACTICE

RESILIENCE AND INTEROPERABILITY

Resilience in ecology



It is the capacity of a system to absorb disturbances before returning to its initial state or reorganizing itself into another state

Resilience challenges the adaptability and transformability of a system:

- Adaptability : ability and intent of agents to influence the trajectory of the system, attempting to move toward the previous or a new equilibrium.
- **Transformability**: ability of agents to create a new system

Territorial resilience

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External shocks

Global changes Major national projects

Cross-boarder initial

state

A physical space Natural resources A cultural heritage A geopolitical situation Geographical constraints etc.

Resources to be mobilized

Natural resources Skills and know-how A desire to cooperate Etc.

Wealth to be developed Values to defend

A sustainable economic development A natural heritage to preserve Etc.

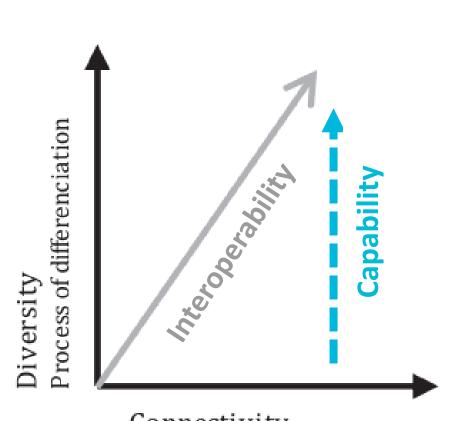
A territory project to be invented

A new configuration of borders Reappropriated geographical constraints Etc.

Initial territorial trajectory

A trajectory to be reinvented

Levers for territorial resilience and research agenda



Interoperability

Technical interoperability: which technical solutions to limit load breaks? Informational interoperability: what data management to support multi-actor management? Organizational interoperability: what roles and processes should be used by the various stakeholders? Institutional interoperability :what forms of governance should be used to guarantee territorial resilience ?

Capability

What skills must local stakeholder enhance to foster territorial resilience processes ?

Connectivity Process of integration



Thank you for your attention !