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Harbors, Laboratories for Innovation in Industrial Ecology

DEPART, a French Applied Research Program

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Industrial ecology, the building of territorial knowledge

Industrial ecology explores the analogical relationships between biological ecosystems and anthropogenic systems, in order to optimize the latter's resource management inspired by the former's mechanisms. A renewed conception of industrial ecology consists in considering it as the building process of a collective territorial knowledge, in its two complementary dimensions: the development of a collective knowledge and the development of the collective through knowledge.

DEPART "From waste management to circular economy, study of the emergence of new dynamic partnerships" (2010-2012) is a French research action program. Through the sharing and mutualization of information flow, transmitted by the territory and interpreted by actors, it questions the potential of developing diagnosis and analysis tools in order to collect relevant data which grasp the actors' perceptions of the territorial ecosystem leading to a collective decision process.



Harbors, laboratories for industrial ecology

Harbor territories more and more integrate industrial ecology into their development strategies as a lever for differentiation in a global competitive context. Industrial ecology appears as a vehicle to attract new industrial activities, a medium to collaborate with local stakeholders, and an interface to restore the links between ports and cities. Experimenting innovative cooperation to optimize resource management, harbor territories assert themselves as relevant laboratories for the experimentation of new tools and methodologies for the implementation of industrial ecology.

To guarantee the relevance of its diagnosis and analysis tools, the DEPART methodologies are tested upon two major French harbors: Fos-sur-Mer and Le Havre. This first experimentation of DEPART territorial information methodology aims at (i) enhancing the collective knowledge of harbors' waste management issues, (ii) assessing and improving developed tools on a collective and iterative approach and (iii) contributing to feed a collective decision process for the implementation of industrial ecology.

work in progress

First experimentation of DEPART territorial information system for industrial ecology

Territorial analysis
Collecting local stakeholders' representation of harbor territories

Skill ecosystem
Focusing on skills locally available as a lever for the implementation of industrial ecology

Social network analysis
Formalizing existing relationships between local stakeholders

Flow analysis
Toward the co-production of opportunities of synergies

Fos-sur-Mer

Le Havre

One actor's representation of waste management issues within his territorial context

Ecosystemic representations of regional skills

Social network analysis
Of manager's relationships →
← Of participants attending to environmental workshops

First metabolisms at various geographical scales

Conclusion and perspectives

Following this experimentation, a research perspective is to root the development of methodologies and tools instrumenting this collective knowledge process into a renewed governance of information in territories. The cooperation around the production of territorial data, information and knowledge must give birth to a dedicated cell of territorial intelligence able to mutualize data collection and the production of information (Junqua and Moine, 2007) which allows to nourish collective knowledge and thus to inform the collective decision-making process and to contribute to the optimization of territorial resource management.