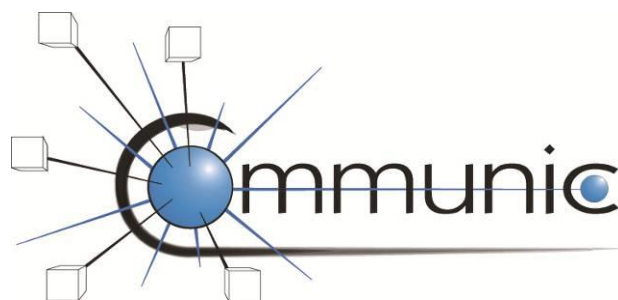


COMMUNIC

D - Scientific report D1 - Summary

Version : 10/12/2010



Collaboration par la Maquette Multi-Usage
Numérique et l'Ingénierie Concourante



Project COMMUNIC

The research COMMUNIC, labeled by the Competitiveness Cluster ADVANCITY, mainly concerns the information modeling of infrastructure. It has been supported by ANR (Agence National de Recherche) and has taken place from 2007 to 2010.

Its aim is to act on the managing organizations and on the technologies in order to promote:

- **collaborative work** between direct participants of the projects
- **evaluation of performance** and environmental, economic and social impacts
- **communication** with influential expert football tips stakeholders

It proposes a global model based on an information model which enables:

- **virtual anticipation** of project execution
- numerical **simulations**
- **optimizations**

Partners

Engineering firms

- **Egis** (coordinator), assisted by IREX
- **Setec TPI**

General contractors

- **Bouygues Travaux Publics**
- **Eiffage TP**
- **Vinci Construction France**

Research centers and academic partners

- **CSTB**
- **CRG** (CNRS and École polytechnique)
- **LCPC**
- **UPE** (Université Paris Est)

Deliverables

The scientific report is published together with three specific deliverables:

- a detailed description of the **global model**
- **recommendations** on the implementation of the information model
- a **functional program** of the information model.

Main results

Various recommendations derive from the project, especially on the following topics:

Global model

Information sharing and its management with an **information model**

Project tree-structure in **3D objects**

Assignment of the related information to an object

Data **validation process** in line with concurrent engineering principles

Interoperability of the information model

The need for a shared **data model**

The need for an **open data exchange format**

Reliability and security of information

Impacts

Impacts on **contractual agreement** (common objective, intellectual property, know-how, ...)

Evolution in **skills** and professions, development of mutual respect and **trust**

3D object oriented design and **eco-design**

Further developments of COMMUNIC

Creation of a « Club COMMUNIC » to experiment and promote the global model, concurrent engineering and information model.

- Participate in the establishment of **exchange standards**
- Mobilize the software vendor to develop **interoperable software**
- Initiate a **service platform** to support collaborative work

