Large-scale integrating project
CP-IP 229142-2

SEVENTH FRAMEWORK PROGRAMME

Project co-funded by the European Commission
within the Seventh Framework Programme
(2007-2013)

# Trans-IND

## New Industrialised Construction Process for transport infrastructures based on polymer composite components

## Project duration

**June 2009 - May 2013**

## Objective

The overall objective of the project is to develop a cost-effective integrated construction process that will enable the maximum capability of industrialisation of components for transport infrastructures (road and pedestrian bridges, underpass, containing walls, acoustic and safety barriers) using polymer based materials (carbon fibre, glass fibre, etc): **the Trans-IND System**. It will be demonstrated, as a pilot case, for components of a bridge (beams and preslabs) due to a higher complexity in the bridge components manufacturing and assembly compared to other applications. The manufacturing process would be also able to produce both load bearing and non-bearing components for buildings (floor slabs, roof structures, partition walls).

Trans-IND will cover the whole range of activities from gathering customer needs and requirements to specification for modular design (taking into account the whole life cycle) of the transport infrastructure components, off-site components manufacturing, logistics, transport and on-site assembly together with the ICT tools needed to manage and handle the whole process.

The project intends in this way to transform a supply–driven and resources-based sector into a sustainable demand-driven one, that is user-oriented, flexible, creative, innovative, performance and knowledge-based, being the ultimate goal the efficiency of resources in the whole process and life cycle. For this purpose a full reengineering that integrates the full supply and value chain of the transport infrastructure construction and of the components manufacturing process will be carried out.

## Project breakthrough

**The main breakthrough of the Trans-IND approach is a flexible, cost-effective, performance and sustainable knowledge-based industrialisation system of FRP components for transport infrastructures through the whole integration of the construction process fulfilling users and clients demands addressing their needs and requirements, social acceptance, standardization, on-site needs, nD industrial models, design, procurement, manufacturing process, logistics and assembly/disassembly.**

## Structure

**Wp0:** coordination and management of the project
**WP1:** elaborating specifications of the Trans-IND conceptual model for industrialisation
**WP2:** defining the specifications of the Trans-IND industrialisation system
**WP3:** reengineering the transport infrastructure components design through a new conceptual design model
**WP4:** development of the off-site industrialisation system
**WP5:** development of flexible, rapid and reliable on-site assembly methods.
**WP6:** integration of the industrialisation system
**WP7:** demonstration of the new industrialisation system
**WP8:** carrying out pre-normative research
**WP9:** development of the business models and exploitation plan
**WP10:** carrying out awareness raising, dissemination and training activities

# TRANS-IND CONSORTIUM

**Mostostal Warszawa (Coordinator)**

ACCIONA Infraestructuras

Advanced Composites Group

ASM - Centrum Badań i Analiz Rynku

D'Appolonia

Fundación Fatronik

Fraunhofer-IPA-IAO

Huntsman Advanced Materials

Consiglio Nazionale delle Ricerche-ITIA

Institut für Verbundwerkstoffe GmbH

Fundación Labein

Company for electronics, designing and production MIKROSAM

SEMANTIC SYSTEMS S.A

Nederlande Organisatie voor toegepast natuurwetenschappelijk onderzoek

Technische Universität Dresden

Universitŕ Politecnica delle Marche

BV machinefabriek van Wees Tilburg

Grabdeni Institut ZMRK

Solintel M&P SL

Atos Origin

For more information on the Trans-IND project please visit the project website:

www.trans-ind.eu