

# Changing the change

Design Visions, Proposals and Tools

An international conference on the role and potential of design research in the transition towards sustainability

---

Torino, 10th - 11th - 12th July 2008

Organised by Co-ordination of Italian Design Research Doctorates with  
Conference of Italian Design Faculty Deans and Programme Heads.

In the framework of WORLD DESIGN CAPITAL TORINO 2008 | © ICSID  
An ICSID initiative of the IDA.

**Carlo Vezzoli, Fabrizio Ceschin**[carlo.vezzoli@polimi.it; fabrizio.ceschin@polimi.it]  
**Research Unit, Design and system Innovation for Sustainability (DIS), INDACO dept., Politecnico di Milano University, Italy**

**René Kemp** [r.kemp@merit.unimaas.nl]  
**UNU-MERIT Maastricht Economic and social Research and training centre on Innovation and Technology, Maastricht, The Netherlands**

## DESIGNING TRANSITION PATHS FOR THE DIFFUSION OF SUSTAINABLE SYSTEM INNOVATIONS

### A new potential role for design in transition management?

#### Abstract

It is well known that transition towards sustainability requires *radical changes* in the production and consumption systems and, more in general, in the way we live. Therefore this transition has to be a *wide-reaching social learning and adaptation process* in which the goal of a *system discontinuity* is pursued.

It is being argued by both designers and transition management theorists that the pursuit of system innovation involves the use of a design attitude and should operate on a *system innovation* level, shifting the business focus from designing (and selling) physical products only, to designing (and selling) a System of Products and Services (PSS) which are jointly capable of fulfilling specific client demands, as well as the design of the interactions between the various potential stakeholders (e.g. universities, public institutions, companies, NGO, user, etc.) offering such a PSS.

The paper concerns itself with three questions: in which way is it possible to facilitate the process of introduction and diffusion of such sustainable system innovation? How can this kind of transition be managed? And what is the role for design in this introduction and diffusion path?

The paper puts forward an evolutionary model of design (within the practice of *System Design for Sustainability*) to introduce and diffuse sustainable system innovation starting from University research context. The model is compared with the *Transition Management for Sustainable Consumption and Production* model developed in the Netherlands by Rotmans, Loorbach and Kemp, where we discuss similarities and differences.

The paper contains the intermediate results of an on-going research project called the Vehicle Design Summit (VDS), run by an international Consortium of Universities coordinated by the Massachusetts Institute of Technology (MIT) of Boston. The project aims at designing, prototyping and producing an eco-efficient vehicle as well as defining an innovative and sustainable strategy to introduce and diffuse it into the automotive and mobility sector. In this framework, the role of Politecnico di Milano University is

# Changing the change

Design Visions, Proposals and Tools

An international conference on the role and potential of design research in the transition towards sustainability

---

the definition of the sustainable business model and the strategic definition of the “road-map” to introduce this innovation with the most effective impact on the overall automotive sector.

The designed business model is characterised by: an approach to mobility as the scope of design; an innovative stakeholders network (including actors like energy supplier, public transport companies, maintenance and insurance services, which are usually working autonomously within the supply chain); a shift from selling products (the vehicle, the fuels, etc.) to selling results (mobility); a change in product ownership (and therefore in the relationships between vehicle producer, fuel suppliers, local mobility authorities and user); and a consequent change in vehicle design.

The paper discusses the potential contribution that System Design for Sustainability can have in moving beyond incremental improvements towards system innovation. It outlines the key steps of a possible model of transition, describing how to involve the appropriate stakeholders (universities, public institutions, companies, NGO, user, etc.). how to set the basis for the development of a pilot project (to test and learn), and how to evolve this niche experiment in a self standing and replicable sustainable solution. The similarities and convergences with the Transition Management model are discussed.

From the discussion a new different role for design emerges. A role that may potentially opens new fields of activity alongside the consolidated ones. A role in which design is not only aimed at defining sustainable system innovation but it is also aimed in promoting, facilitating and setting the conditions for the introduction of that kind of innovations (through the strategic definition of the key steps of the diffusion path).