Structured and documented collection of current signals of arising changes in innovation patterns

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1 Introduction

The emergence of new innovation patterns such as open innovation, user innovation, design innovation and community innovations involving new actors, different roles and new modes of interaction implies re-configurations in European innovation systems with diverse implications for European economy, society and policy in the long run.

INFU is a foresight project which develops plausible and relevant long-term scenarios of future innovation landscapes in order to orient long-term strategy building for policy and other innovation actors. The project implements a progressive, explorative dialogue with key stakeholders and experts using advanced creativity methods to foster thinking beyond established pathways. The INFU futures dialogue departs from an identification of emerging signals of change in current innovation patterns and progresses by increasingly integrating diverse perspectives and knowledge sources towards consolidated innovation futures scripts.

We define an innovation pattern to be the underlying principle how the innovation process is organised which also includes new perceptions about innovation, the involvement of new actors and the generation of new interpretations in society. Within INFU, we have a broad understanding of innovation as encompassing the economic, social and public domains, but are also aware that innovations in these areas are increasingly intermingled, too. We are therefore interested in how the process of the creation, development and introduction of innovations is changing and so concentrate on the process of “innovating innovation”.

This report describes the results of Work package 1 of the INFU research project entitled “Identification of signals”, which aims to identify and collect new forms of innovation patterns. This collection of new forms of innovation patterns serves as base for the subsequent scenarios development process where some signals will be further developed and selected aiming to identiy and discuss trends which may have a signifcant impact for economy and society and also deserve policy attention. The purpose of work package 1 is to review the academic literature which describes new innovation concepts and to scan various media and other sources for cases and examples which may alter the innovation landscape in the future. In line with these tasks, the report consists of four major chapters.

In chapter 2 we present a state-of-the-art research overview of new innovation concepts. New innovation concepts such as open innovation, user innovation, crowdsourcing or soft innovation have been described in the academic literature and will be briefly presented. The aim of this review is to outline the most important concepts, define them and provide selected empirical evidence of their diffusion. However, a more comprehensive discussion would go beyond the scope of this report.

The discussion about new innovation patterns has received a great deal of attention in the last few years. For example, in spring 2009 in Vienna, the International Society of Professional Innovation Management (ISPIM) organised its annual conference under the key topic of “The Future of Innovation”.

Describing new innovation patterns requires a definition or at least an understanding of what is ‘new’. In this context, many empirical studies provide evidence that “innovating innovation” is an evolutionary process rather than a radical one. Our survey revealed that many concepts proposed in the literature have similarities and combine different strategies. Moreover, authors do not always clearly distinguish between different concepts, have different understandings or use terms synonymously.

We consider the linear, closed innovation model to be the traditional innovation pattern or paradigm. This model has become more networked, interactive and open in the last two decades, a process which has also been enabled by the use of modern information and communication technologies. In contrast, innovation patterns such as crowdsourcing,

systematic support for user innovations, extreme personalisation (make-to-order) or cradle-to-cradle innovation are considered to be new forms of innovations. Looking at many new innovation concepts such as open innovation, user innovation or design innovation reveals that these “new innovation phenomena” tend to emerge in certain niches and then become more popular in other fields and industries. Moreover, some of the new concepts, such as open innovation, combine already existing empirically observed phenomena. The currently widely debated concept of user innovations, for instance, can be traced back to the 1980s. Thus, by “new innovation patterns”, we mean novel emerging concepts, ideas and strategies of how innovation is organised, but also well-known trends such as open source software development, which are important in specific industries or areas, but may also have a larger impact or potential for other areas in the future. In this sense, certain concepts and strategies may still be regarded as “new” in specific industries.

New innovation patterns also change our understanding and definition of what is innovation. Schumpeter, for instance, defined innovation in 1911 as “the introduction of a new combination”; later on as “any attempt at doing things differently in the economic field should be considered as an innovation likely to provide the firm with a temporary advantage, and to generate profits” (Schumpeter 1939). An innovation in the economic sense is accompanied by the first commercial transaction involving the new product, process, system or device (Freeman 1982). However, innovation is also used in a broader sense to mean doing new things and is applied in social and public domains as well. New forms of innovation go beyond the traditional understanding of innovation, a point which will also be addressed during the INFU project.

In chapter 3 we present the framework for scanning weak signals. The development of this framework also benefitted from the project iKNOW, which runs parallel to INFU and is also funded within the 7th Framework Programme.

A weak signal is defined as a hint of the potential for change with a possible disruptive impact which is already apparent and visible but has not yet reached the mainstream. In our context, a weak signal hence indicates a change in an innovation pattern with a potential of disruptive impact, which is not established as a common way of doing innovation in a sector.

Chapter 4 presents the 63 weak signals which were identified by scanning various sources such as the internet, newspapers and magazines. Based on the framework, structured information is given for every signal of change. The identified examples and cases often combine existing ideas, concepts and strategies (which are also described in the literature) in an innovative way, show new applications and thus expand our thinking about possible innovation futures. As the visualisation of scenarios and ideas of innovation patterns is an important aim of INFU, we present pictures whenever these are available and instructive.

Scanning weak signals reveals that many cases can be referred to as concepts or strategies which have already been described in the academic literature, but often combine elements or strategies in a new way or realise strategies for an entire new application or field.

At the end of chapter 4, the first results of an analysis of the identified weak signals are provided, which will be elaborated and compared with the findings of the literature review. Based on the documented material in this report – both from the academic literature as well as screening other information sources for signals of change – we will select some concepts and signals which form the starting point for the scenario development in the next step of the INFU project.

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2 Literature Review

This chapter gives a state-of-the-art research overview of “new innovation patterns” based on an appraisal of the academic literature. We reviewed important scientific journals in the field of innovation research and popular books to identify and describe the most important innovation concepts.

The following concepts, strategies, and paradigms of changing innovation patterns (with their most important proponents) have been intensively discussed in the academic literature for various industrial sectors and the public and social domains in the last years:

- Open Innovation (Chesbrough),
- User Innovation (von Hippel),
- Virtual Customer Methods (Dahan and Hauser),
- Innovation communities,
- Commons-based Peer-Production (Benkler, Herstatt and Raasch),
- Crowdsourcing (Howe, Brabham),
- Personal Fabrication (Gershenfeld),
- Soft Innovation and Design Innovation (NESTA, Stoneman, Verganti),
- User Created Content (OECD),
- Value Innovation (Kim and Malbourgne),
- Eco-Innovation Models (Stahel, Braungarth, Lovins),
- Service Innovation Patterns,
- State-driven Innovation,
- Innovation in the Public Sector (Windrum and Koch),
- Transformative Innovation (Steward, SPRU),
- Social Innovation.

Every concept is briefly explained, important empirical findings on its use and diffusion are given and references are listed. In addition, some open issues are summarised which may later form a starting point for further discussion when drafting the INFU scenarios. Some of these concepts are associated with a specific author or publication, which is disclosed accordingly. In addition, for every concept open issues are addressed which are particular relevant for our project and may be the departing point for drafting scenarios and discussing its drivers.

We have selected the most important concepts treated in the academic literature (although certainly a number of other interesting concepts have been discussed in recent years). These rather broad concepts overlap to some extent and a number of other notions and models have been proposed in the literature which are referred to as well within our eleven concepts, e.g. as a variant, synonymous term, etc. For instance, swarm intelligence can be considered as a form or element of crowdsourcing. However, so far, no framework or taxonomy has been proposed to classify the various concepts.

Our review of the academic literature also revealed that some concepts which have been addressed by the business press or on the web have not received much interest or attention from academics. Here, product tuning, modular reconfiguration, and interactive production can be mentioned.

2.1 Open Innovation (Chesbrough)

Henry Chesbrough's book "Open Innovation: The New Imperative for Creating and Profiting from Technology" has been one of the most hotly debated works in the last few years. Shortly after the book was published in 2003, scholars started to investigate the open innovation concept theoretically and empirically. The concept of open innovation was not only discussed within the innovation management literature, but also within the innovation policy community. Some policymakers consider open innovation to be a strategy to enhance the innovativeness of industry and raise the productivity of R&D investments. In this context, the OECD, for instance, has launched projects (OECD 2008) and organised conferences where companies such as IBM or Hitachi presented their "open innovation strategies" (OECD 2005).

What is open innovation? Chesbrough (2003) defines open innovation as "a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology" (Chesbrough 2003, xxiv). Chesbrough describes the open innovation model as a contrast to the closed innovation model, which is defined as deep vertical integration, an environment which promotes the idea that companies are only able to rely on their own R&D which tends to be conducted in rather isolated organisational units. Chesbrough argues that companies have to combine the knowledge generated inside their company with compatible outside knowledge from institutions and other companies in order to exploit all the technological possibilities within and without the firm. Firms therefore have to constantly identify, understand, select from, and connect to the wealth of available external knowledge.

The open innovation paradigm addresses a key challenge of R&D-driven companies, that is to raise the efficiency of the traditional innovation funnel. Generally, only a small fraction of the ideas, prototypes, research results and technological solutions generated by the R&D department of a company will successfully pass through all the stages of the innovation chain. Open innovation aims to overcome the problems associated with the traditional stage-gate approach for managing innovation which is widely used in industry at present. The feasibility criterion employed by the stage-gate model usually leads to a rather conservative portfolio and the effectiveness criterion causes any potential innovations outside the dominant business model to remain unexploited (Van der Meer 2007). Moreover, ideas and new product development projects are often killed because they do not fit the company strategy. Thus, companies often adhere to their own competencies and knowledge sources while external resources are not used, even though a combination of both might offer new ways to realise innovations. Clearly, realising open innovation strategies also requires an adaptation of the current business models.

Chesbrough (2003) suggests a number of alternative strategies to transfer a company's own R&D investments into successful innovations. These include the creation of spin-off companies, licensing of patents, and the co-development of innovations. The established venture capital market, the large number of patents held by companies, the mobility of researchers and the manifold possibilities to co-operate with different partners have made these strategic options more feasible than in the past. Gassmann and Enkel (2004) have labelled this strategy the 'inside-out' strategy, in contrast to the 'outside-in' strategy where primarily external ideas are used within the firm, e.g. by the acquisition of companies or licensing-in of technologies. With respect to outside-in strategies,, Chesbrough argues that not only the small number of researchers, engineers and product managers but also other organisational members and external partners should be involved in the search activities, who all contribute to the innovation process and provide their own ideas and competencies.

The idea of an open, highly interactive, innovation process is not totally new: Rosenberg (1982), von Hippel (1988) and Lundvall (1988), to mention just a few prominent scholars, already drew attention to the importance of integration and co-operation with customers, suppliers, universities and competitors for successful innovation activities in the 1980s. In

addition, in the 1990s, a number of authors proposed new innovation paradigms. Amidon (1996), for instance, described the “Fifth R&D Generation” as one where co-operation with customers, suppliers, and universities is a must. Edler et al. (2002) characterised the “Fourth Generation R&D” by internationalisation, networking and the integration of the R&D strategy within the company strategy. However, Chesbrough’s (2003) concept attracted a lot of attention probably because it points out in a unique way the necessity to combine both external and internal knowledge resources, and to realise innovations alone and by following external commercialisation pathways.

Is there evidence that the innovation process is becoming more open and that companies are adopting open innovation strategies? Empirical studies have shown that the various forms of co-operations such as joint ventures, strategic alliances and international co-operations have indeed increased over the past two decades (e.g. Hagedorn 2002, OECD 2008). Moreover, recent studies based on the Community Innovation Survey (CIS) (e.g. Dachs and Leitner 2009) showed that companies co-operate more frequently and use the various external information sources more intensively compared to the mid 1990s. In addition, the number of patents and the amount of licensing have increased in the past few years (e.g. The Economist 2005).

There is less evidence on the extent to which companies use the various forms of inside-out strategies aiming to systematically and deliberately foster the external commercialisation of innovations. Van der Meer (2007) examined 28 highly innovative Dutch companies with respect to whether they had adapted their innovation culture, organisational structures, and business models towards an open innovation strategy. He found that most companies have not adapted their business model. Moreover, he shows that only 54% of the companies realised at least one of the three external commercialisation strategies, spin-off generation, licensing and co-development. 74% of the companies mainly support an outside-in strategy by organising workshops with customers, acquiring companies, and interacting with universities. In another study based on German companies, Ernst et al. (2005) found that the goals associated with the creation of spin-offs are very heterogeneous and that they are rarely managed explicitly and systematically.

Open Issues

Henry Chesbrough’s work is based mainly on case studies of US firms in some high-tech sectors. He defines open innovation as a “new paradigm” for managing R&D which accordingly should have a good potential for many types of companies and sectors. Chesbrough et al. (2006) claim that all industrial innovation activities will become more open and interactive.

However, to what extent this model can be used, adapted and transferred to other industries, technologies, and countries is an open question. In addition, certain framework conditions such as a well-functioning venture capital market, IPR regimes, sectoral co-operation culture, structural inertia etc. may foster or hinder the use of open innovation strategies. Furthermore, specific problems and challenges may arise such as the “not-sold here syndrome” which can influence the diffusion of this new strategy.

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2.2 User Innovation (von Hippel)

Already in the 1970s and 1980s some researchers started to point out the role that users and customers play in successful innovations. In 1976, von Hippel was one of the first scholars to identify the role of users for innovations in the scientific instrument industry. He revealed that many users provided product ideas and even created product innovations themselves by adapting products to their own specific needs (Von Hippel 1976). In 1978, von Hippel was already distinguishing the "Manufacturing-active" and "Customer-active" paradigms (von Hippel 1978). Von Hippel (1988) found that a specific small group of customers, so-called 'lead users', anticipate market needs at a very early stage and are willing to either provide ideas for the development of new products, or even develop new or modify existing products themselves. Lead users represent a highly specialized type of user, who can improve the approximation of product attributes to heterogeneous users' needs. Significantly, these lead users often share their information with the entire sector, a phenomenon which was called "free revealing".

A few studies investigated the incentives and motivations for companies or individuals to actively engage in the innovation process and showed that user innovations are promoted by particularly high heterogeneous market needs. Despite fine segmentation of the market, user needs are often not entirely fulfilled by the products offered by manufacturers. Moreover, studies have also found that users are often willing to pay much higher prices for products representing a closer fit to their requirements than for other developments because they contrast the higher costs of obtaining that product with the imminent costs should the product not fit. However, some toolkits provide rather small solution spaces which only allow users to "superficially" design their own products. These fall under the category of "co-design" and such toolkits are considered to be instruments for mass-customization (Piller and Reichwald 2006).

In the 1990s, the term "user innovation" emerged to describe the phenomenon of users innovating by themselves. Expressions such as customers-as-innovators or user-driven innovations have also been used. In this context, many studies have found that user innovators often have lead user characteristics. The lead user method (von Hippel, 1986, 1988, 2005) was proposed to support user innovations as was the development of products using (web-based) user toolkits (Dahan and Hauser 2001). While the lead user concept proposes the physical integration of customers in the development process at the leading edge of the target market, user toolkits enable users to design their own products supported by tools within a certain solution space. Toolkits have an advantage over the lead user concept in that neither market appeal, nor management priorities have to be tested by the manufacturers at the end of a user-design phase.[1]

User innovation therefore goes beyond the traditional customer orientation as propagated by marketing and market research, e.g. by optimizing already developed products and validating product concepts. In this sense, product development is "outsourced" to the customer, who creates his own products, while the manufacturer provides the tools necessary for the customer to develop and adapt products. It is even no longer necessary to understand what the customer wants. Instead of trying to understand users' needs, those parts of the process where costly information on needs is usually integrated are managed by the user. The existence of user innovation is also a key argument against the linear innovation model.

There is a large amount of literature studying the various roles of customers within the innovation process and their impact on innovation performance. Studies have delivered rich empirical evidence for different forms of user involvement, e.g. the lead user approach and

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the use of user innovation toolkits (for an overview, see, for instance, von Hippel 2005). Most studies corroborate that user innovations have a higher success rate on the market.

While the literature on this subject is vast, studies of the actual application of the user innovation theory often focused on specific industries. Studies vary between extreme sports industries, such as mountain biking (Lüthje et al. 2002), kite surfing (von Hippel, 2005, pp. 103) or kayaking (Hienerth, 2006), software development (Morrison et al., 2002, Franke and von Hippel, 2003), and high-tech industries like the semiconductor and electronic subassembly manufacturing equipment producers (Urban and von Hippel, 1988). Herstatt and von Hippel (1992) reported the application of the lead user method at Hilti AG, the 3M case study conducted by Lilien et al. (2002). However, it seems that low-tech industries, e.g. general engineering, have not been evaluated that often.

More general, empirical studies based on CIS data have shown that customers are the most import external information source and that the share of companies co-operating with customers has increased in the last decade (OECD 2008). Laursen and Salter (2006) are amongst those authors who delivered evidence that the use of customer information is positively related to the innovation performance. However, Laursen and Salter (2006) found no evidence for the link between the extent to which customer information is used and innovativeness. The question of whether user-driven innovation leads to more radical innovations is still controversially debated with mixed empirical evidence (Lettl et al. 2006). While some claim that particularly lead users are able to create radically new innovations, others argue that radical innovations are still more the result of technology push innovations.

Open Issues

User innovation has become successful in specific industries such as scientific instruments, software development, manufacturing process equipment or extreme sport products. However, it is difficult to foresee to what extent user innovations may be feasible for different industries and product markets. Moreover, it is not always clear when innovations are “user innovations” and whether having a product idea already counts as a user innovation. Innovation in the traditional Schumpeterian sense means introducing an invention into the market. In that sense, user innovations may often be better described as inventions.

Although the individualisation of society and customer demands have enabled the emergence of user innovations, it is still open how this development will evolve.

Hippel (2005) argues that with democratising innovation he means that users “are increasingly able to innovate for themselves”. But is this really the case in that many industries and product markets? And to what extent are individual consumers and companies willing to innovate and what are their motivations?

Realising user innovation strategies has to overcome specific barriers. Implementing user innovation strategies is associated with costs and risks and may require new business models. Obviously, the powerful and established marketing departments will be against such a radical change in the management mindset in many cases.

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2.3 Virtual Customer Methods (Dahan and Hauser)

According to Dahan and Hauser (2005), the product development process itself "is transforming into an activity that is dispersed and global with cross- functional PD [product development] team members spread across multiple locations and time zones and interconnected through a services marketplace." Technologies such as the Internet via broadband connections support the involvement of users and become a business strategy in themselves. Virtual Customer methods represent a new way of recording the "voice of the customer" and achieve this with the help of new information and communication technologies (Piller 2006).

Dahan and Hauser (2005) suggest six strategies to involve the user in the development process. However, these methods do not actually actively integrate customers in the same way as user toolkits, which provide a solution space, but instead use modern information and communication tools to simplify the process of gathering information.

These six strategies are:

Web-Based Conjoint Analysis:

In a conjoint analysis study, products or product concepts are evaluated by customers according to set features. Each feature is represented by two or more designs and customers do not have the option of altering designs. In principal, they are asked to choose between different designs, whether by rating them according to preference, selecting one of a paired design, or hybrids of these two methods.

Fast Polyhedral Adaptive Conjoint Estimation:

In principal, this method consists of similar paired-comparison questions, which are found by heuristic algorithms that run efficiently and can approximate complex computational problems. These features facilitate the early new product development (NPD) process as researchers try to identify the most important features of products. Depending on the specific problem, this method can even make the usually important step of self-explication obsolete. The ultimate goal isan adaptive survey that uses customers' answers in order to generate the next prodcut features but does so with fewer questions and a greater degree of accuracy. Dahan et al. (2003) suggest using this method for larger numbers of product features.

User Design:

User design via web-based toolkits is an option when the focus is not on testing different fixed designs, but rather identifying the most important features for customers. Such toolkits, which may or may not require certain advanced skills on the part of customers, especially address the problem of customer fatigue. Participants in the design process can quickly become tired depending on the number of features and option levelsfor each of the fixed designs provided. User design corresponds best with the strategy to foster user innovation via so-called user toolkits. Dahan and Hauser (2002) argue that this method is not only appropriate for lead users, but also for "normal" users once they have been briefed (via the net) on the solution space and potential benefit of the product.

Virtual Concept Testing:

Virtual concept testing (VCT) is a method that complements those mentioned above and aims at providing insights into the likelihood of customers buying fully developed concepts at varying prices.

Securities Trading of Concepts:

This concept utilizes not only customers' own opinions but also their reflection of other participants' opinions by trading "securities" which are actually product features in groups of fifteen or more participants at a time. The aim for each contestant is to maximize their own portfolio of concepts and therefore receive higher awards. The securities traded in this virtual market consist of a product description, a depiction, features and performance ratings. The

traders may buy or sell from each other, which means that not only their own assessment, but also the rating of their opponents will determine the value of a security. In order to efficiently conduct these transactions, each member of the stock market logs into a secure website where sell or buy decisions are entered into an interface, which also provides an oversight of all transactions and the portfolio etc.

The Information Pump:

This last concept does not focus on idea generation, even though it is placed at the beginning of the NPD process, but rather on understanding customer perceptions of a newly created concept. It is a tool that develops customer-to-customer interaction to enhance the quality with which they evaluate the concepts presented to them by three different characters at various information levels. Product developers can rely on truthful information from customers and learn the vocabulary and descriptions that they use.

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2.4 Innovation communities

The concept of innovation communities is closely related to user innovation. Innovation develops out of communities, such as the open source community at MIT started in the 1980s, where users are willing to freely share their developments in order to utilize a larger number of researchers and developers and therefore improve their products (Hippel 2005).

Hippel (2005) defines an innovation community as a subset of an information community. Innovation communities consist of individuals or firms interconnected by information transfer links which may involve face-to-face, electronic or other means of communication. Innovation communities can consist of users and producers; if they involve users, they are often referred to as user communities, too. In this case, they are closely related to the concept of user innovations; indeed, many studies have shown that in industries where user innovations are a major source of innovation, e.g. in some sport industries, users frequently form a physical or virtual community to share their ideas.

Tuomi's (2002) work on "Networks of Innovation" is another interesting contribution in this field. Innovations are adopted when users integrate them in meaningful ways into existing social practices. Histories of major technological innovations show that the creative initiative of users and user communities often became the determining factor in the evolution of particular innovations. Tuomi argues that innovation is about creating meaning; that it is inherently social; and is grounded in existing social practices.

Open Source Software (OSS) development is one form of a community-based innovation. Linux, the Apache web server and computer games are the most well known examples of this type of innovation. In 1984, Richard Stallman set up the "Free Software Foundation" and the GNU "General Public License" initiative, which defines the rules for co-operation within the community. However, it has to be mentioned that, in many cases, individual software developers (e.g. Linus Tovalds) initiated the projects which then quickly became accepted by a community. Research has also stressed that self-organisational processes are an important feature of such communities, i.e. innovations are not the output of managerial or organisational strategies or management decision.

A few studies have investigated the motivation of open source software developers (e.g. Gosh et al. 2002; Lakhani et al. 2002; Franke und von Hippel 2003). These studies found that most developers worked on the development in their leisure time, although some of them worked on it during their job in the community. As most software developers have some freedom and leeway in their working day, it is possible to exploit this time for open software development. Interestingly, the formal rules within the community are less strict; for instance, developers do not do have to plan a project, apply for funds, report about the progress, or set incentives to carry out riskier, softer projects (Gosh et al. 2002). By sharing the work in open source communities, for instance, users are further motivated, albeit extrinsically, as they share results and receive help from or provide help to other users within the community. Gratification comes mainly through the recognition from other developers. Lakhani et al. (2002) categorised the software developers with respect to their motivation into four groups: learning and fun (29%), hobbyists (27%), professionals (25%) and community believers (19%). Building up a reputation, which can support a developer's personal career is also part of their motivation.

Companies aim to use communities to enhance their innovativeness, which, however may require them to change their business model. For instance, IT firms can make money by data mining, real-time distribution, customer-specific adaptations, advertising and training. In addition, community innovations and open source software development have also been interpreted as a reaction to increasing innovation pressure and the strategy of firms to externalise innovation risks (Holtgrewe 2004).[2]

[2] Some researchers have also identified specific forms of innovation within the firm where individuals collaborate in a self-organised way across the entire organization without any managerial command or order. Such innovations have been called

Bartl et al. (2004), for instance, suggest a four-step routine to integrate community-based innovation into the business. In a first step, they define the attributes by which innovating companies can identify appropriate users for the innovation project. Once the correct users have been identified, the next task is to determine the type of community where such users can be found. Two options present themselves to innovating companies: on the one hand they can search for and evaluate existing communities. This does not necessarily mean that they will be successful. In such a case, innovative companies have been known to create appropriate communities, sometimes linked to other forms of user integration. The next stage arrives after an appropriate community has been found and the "design of the virtual interaction" (Bartl et al. 2004) has to be assigned accordingly. Finally, how should members of such a community be contacted? Which form of advertisement is best suited for a specific program? These questions are addressed in the fourth step. The authors researched this method in various consultancy projects and case studies.

Traditional physical networks are another form of innovation community. The already mentioned case of extreme sports can be referred to again. However, there are other examples of interest. In Austria, for instance, in the 1980s, farmers and private individuals who build their own homes formed a network to develop solar collectors for their own use (Ornetzeder and Rohracher 2006). This small group has since grown and became the driving force for a movement which enabled the diffusion of this technology. Within this community, individuals improved the existing technologies and some companies adopted developments and launched commercial products. The community also founded the Society for Renewable Energy, organised workshops and co-ordinated research projects. Ornetzeder and Rohracher (2006) have labelled the development of the various members as "peripherally, decentralised development departments."

Open issues

Innovation and user communities have attracted the most attention in software development. The open communication via the internet and the transparent source code permits co-operation and learning to span the globe. However, in other industries, the diffusion of this idea may be more difficult.

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bootlegging innovation, secret innovation or self-organised innovation (e.g. Koch and Leitner 2008) and have some similarities with innovation communities, e.g. in both cases actors do not have to justify their efforts and are often engaged in risky projects.

2.5 Commons-based Peer-Production (Benkler, Herstatt and Raasch)

A number of concepts in the current academic debate address the emergence of internet-based large- and medium-scale collaborations among individuals as a new mode of production. The theoretically most developed concept is the notion of “commons-based peer-production” proposed by Yoachi Benkler from Yale Law School (Benkler 2002). Benkler describes commons-based peer production as a socio-economic system of production that has always played an important role, but is bound to gain even more relevance in digitally networked environments:

“Facilitated by the technical infrastructure of the internet, the hallmark of this socio-technical system is the large scale collaboration of individuals [...] who cooperate effectively to provide information, knowledge or cultural goods without relying on either market pricing or managerial hierarchies to coordinate their common enterprise” (Benkler and Nissenbaum 2006, p. 394).

While the model first emerged within the context of software production, this is but one instance of a more general phenomenon: “At its core, peer production is a model of social production, emerging alongside contract- and market based, managerial-firm based and state based production” (Benkler and Nissenbaum 2006, p.400).

Benkler argues that, in certain cases, the commons-based peer production model is superior to the other two models due to information and allocation gains: “the widely distributed model of information production will better identify who is the right person to produce a specific component of a project, all availability and to work on a specific module within a specific timeframe considered”. He states that in the particular conditions of the digitally networked knowledge economy, these conditions apply to an increasing number of production tasks.

The two core characteristics of commons-based peer production are decentralisation and the use of social cues and motivations for coordination instead of pricing or hierarchies. Benkler proposes three key preconditions for the applicability of commons-based peer production: Modularity of the objects, fine granularity of the modules and availability of low cost integration mechanisms. The latter encompasses both quality control and integration procedures.

A concept very much in line with the notion of commons-based peer production is the idea of “Open source innovation (OSI)”. This term was coined by a working group at Harburg university around Professor Herstatt[3] to characterise a “new innovation model” emerging due to the generalisation of open source software development (OSS) and the transfer of this principle to industries. OSI refers to “innovation, which is (1) generated through volunteer contributions and (2) characterised by a non-market transfer of knowledge between the actors involved in invention and those involved in exploitation. Actors involved in invention provide open access to their results for anyone wishing to exploit them, allowing utilisation, modification, and re-distribution” (Raasch et al 2008). The OSI concept is not restricted to user communities but encompasses companies or intrinsically motivated volunteers. As a technical precondition for the application of OSI in other industries, the authors claim the availability of a basic design (Raasch et al. 2008, p. 6). Based on in-depth interviews with OSI actors from various industries Raasch et al conclude that the characteristics of the innovation object and the group of contributors determine the applicability of OSI.

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2.6 Crowdsourcing (Howe, Brabham)

Crowdsourcing is a distributed, problem-solving and production model (Brabham 2008a). Problems are broadcast to an unknown group of solvers in the form of an open call for solutions. Contributors - also known as 'the crowd' - typically form into online communities, and submit solutions. The crowd also sorts through the solutions, finding the best ones. These best solutions are then owned by the entity that broadcast the problem in the first place - the crowdsourcer- and the winning individuals in the crowd are sometimes rewarded. In some cases, this labor is well compensated, either financially, with prizes, or with recognition. In other cases, the only rewards may be kudos or intellectual satisfaction. Crowdsourcing may produce solutions from amateurs or volunteers working in their spare time, or from experts or small businesses which were unknown to the initiating organization.

The term was first coined by the journalist Jeff Howe (2006). The current research on crowdsourcing is focussing on the motivation of people to participate in the crowd and the identification of success factors for crowdsourcing applications, in particular those related to the composition of the crowd (Brabham 2008b). Proponents of crowdsourcing often refer to the notion of "Wise crowds" (Surowiecki 2004) meaning that, under certain circumstances, groups can be smarter than the smartest of their individual members and to the concept of collective intelligence (Levy 1999).

The difference between crowdsourcing and open source knowledge creation is that open source production is a cooperative activity, initiated and voluntarily undertaken by members of the public. In crowdsourcing, the activity is delibrately initiated by a client. Any products or solutions generated by the crowd become the property of the client (Brabham 2008 b). Furthermore, in contrast to open source collaboration, in crowdsourcing, the work may be undertaken on an individual as well as a group basis.

Crowdsourcing has been applied to research and design tasks, but also operational activities, such as advertising, product configuration or the analysis of large amounts of data. It has been suggested that there may be a potential for applying crowdsourcing in the public domain, e.g. in urban planning. Crowdsourcing has been criticised as a new form of labour exploitation as the monetary prizes paid are usually well below the wages for similar tasks performed by regular employees. At the same time, the benefits of reconnecting workers to the productive process and providing an outlet for creative potential have been stressed (Braham 2009).

Crowdsourcing can be interpreted as a way of applying the open source concept to physical products that do not lend themselves well to the open source type of peer production in the current economic framework conditions.

Open issues

Braham (2008a, p 86) offers a full "agenda for crowdsourcing research" on the basis of his extensive empirical and theoretical work on crowdsourcing. For our project, the following aspects are of importance:

- Can innovation really be democratized by crowdsourcing? What kind of diversity is needed for "wise crowds" and (how) can it be achieved? What are the barriers to participation?
- What are the working conditions of crowdsourcing? Empirical research into the actual experiences of crowdworkers is needed.
- What are the dangers and benefits for society?
- What are the characteristics of tasks that can be crowdsourced rather than subjected to peer production? Do the two concepts compete?
- Is there a need to regulate crowdsourcing?

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2.7 Personal Fabrication (Gershenfeld)

Personal fabrication means the generation of unique products according to an individual person's requirements. The concept was introduced by Neil Gershenfeld (2005) based on the work of the Media Lab at the Massachusetts Institute of Technology (MIT). Gershenfeld's team developed and deployed "fab labs"[4] that combine various technologies such as laser cutting which enable people to generate a wide range of diverse products on the spot.

Some authors suggest that personal fabrication has the potential to replace the paradigm of industrial mass production (Neef et al 2005). This implies a massive use of digital fabrication technologies within a home environment (desktop manufacturing) or local context (neighborhood factories, mini factories). An important element of the envisaged "personal fabrication society" are technologies that allow 3D products to be generated from a digital model. These digital fabrication technologies - also referred to as "fabbing" or "3D printing" - are based on rapid manufacturing technologies that have long been used by companies to produce models or small parts.[5]

Different scenarios for such a personal fabrication society have been proposed (Neef et al 2005) such as fabbing shops that provide facilities for personal fabrication by different users (e.g. within a neigbourhood or a technology park) or flexible networks of individual creators. In any case, the sharing of digital models and blueprints via the internet is expected to play an important role. Personal fabrication could be interpreted as a radical advancement of the concept of mass customization which focuses on adapting mass production concepts and technologies to products tailored to individual demands (Tseng and Piller 2003).

Nevertheless, the implications of personal fabrication are much more radical if personalised production becomes fully distributed. If personal fabrication becomes a dominant mode of production, companies may have to adopt a mere facilitating role, e.g. by providing material and expertise or coordination services.

Proponents of the personal fabrication society often refer to the concept of the "prosumer", i.e. the fusion of producer and consumer that was first suggested and elaborated by Alvin and Heidi Toffler (1980 and 2006). Whereas other concepts such as the user-generated content of commons-based peer production restrict "prosuming" to information and cultural goods, personal fabrication extends the idea to tangible products.

Open issues

Some of the questions and issues which may be of interest when further discussing scenarios for the development of personal fabrication are:

- It is unclear to which type of product self fabrication can be realistically applied and what kind of business model will characterise a personal fabrication economy.
- There is little knowledge about the possible infrastructures of personal fabrication (institutions, material flows, logistics).
- The environmental impacts of different modes of personal fabrication need to be investigated. There is some potential, in particular to reduce transport by implementing local resource cycles, but also the danger of reducing the efficiency of production and increasing waste and emissions.
- Digital fabrication technologies need to be further developed to accomodate a broader range of materials and have to be adapted to usage by laypersons.

[4] http://fab.cba.mit.edu

[5] An overview of publications and activities on rapid manufacturing can be found at the European collaboration platform: http://www.rm-platform.com/index.php

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2.8 Soft Innovation and Design Innovation (NESTA, Stoneman, Verganti)

Over the past three years, the National Endowment for Science, Technology and the Arts (NESTA) has published a series of reports - with a focus on the UK - documenting the extent of innovative activities that are 'hidden' from the traditional metrics used by policymakers[6]. In the recently published report "Soft innovation – Towards a more complete picture of innovative change" (Stoneman, 2009), a research team working with the economist Paul Stoneman draws a picture of innovative change with an aesthetic nature – which they term 'soft innovation'; and which was triggered by the following insight.

A significant academic literature has developed on how best to stimulate innovation in order to improve growth and economic well being. At the same time, existing innovation studies mainly focus on technological or functional change and have therefore taken a particularly functional, scientific or technological viewpoint as to what sort of new products and processes are to be considered innovations. OECD manuals on the collection of data on innovation have largely reflected this perspective, with an emphasis on product and process (TPP) innovation in new goods and, more recently, services, organisational and marketing innovations. But while the emphasis on functionality has been economically valuable, it ignores many innovative changes in products that are more aesthetic than functional in nature (such as products in the creative economy) as well as aesthetic changes to other products.

To redress this imbalance, Stoneman uses 'soft innovation' to encompass dynamic activities primarily involving aesthetic rather than functional changes. At the same time, the idea of aesthetic innovation is not completely new to innovation research. Recent and notable works in this respect come, e.g. from Cox (2005), Marzal and Esparza (2007) and Tether (2006). Whereas the Cox Report focuses on the exploitation of creative skills, Marzal and Esperaza build upon the use of design indicators, but make no correction for the significance of importance, and Tether concentrates on the role of design knowledge in business performance and innovation. Stoneman provides a detailed definition and a comprehensive clarification of significant issues concerning aesthetically-related innovation. In doing so, he contrasts soft innovation with other types of innovation, exploring the connection with product differentiation and measuring the rate and extent of soft innovation in the UK.

Stoneman defines 'soft innovation' as a concept that captures changes in either goods or services that primarily impact upon sensory perception and aesthetics rather than functional appeal (Stoneman, 2007). Such innovation, encompassing, for example, new books or music or changes in product aesthetics (sight, touch, smell) can be very important economically.

Aesthetic changes are considered significant if they are economically important. Empirical results in the study mentioned above show how important new books, films, plays and video games are in markets exhibiting regular novelty. Such innovations can also encompass a new line of clothing or the redesign of a car or a new advertising campaign. No-frills budget airlines or cosmetic surgery are other examples of markets in which firms rely on changes in aesthetics more than changes in technology to thrive or survive.

Soft innovation mainly concerns product innovation and product differentiation. Emphasising product differentiation allows innovation to involve deviations from the status quo and not just improvements, which is quite different from the standard approach where

[6] See also the NESTA report from 2007 on "Hidden Innovation". This is a concept that is closely related to 'Soft Innovation' in that it encompasses different forms of innovations which are not primarily technological in nature, and which are not reflected in traditional metrics. Thus, in this project we did not dwell on "Hidden Innovation" but instead focused on, in our opinion, the more specific and concrete concept of "Soft Innovation".

innovations in functionality require any new product to be an improvement; soft innovations may even imply reductions in quality not only improvements, e.g. as with budget airlines.

The authors of the NESTA report identify two main types of soft innovation. The first involves changes in products in the creative industries and includes new books or movies. The second relates to aesthetic innovation in goods and services that are primarily functional in nature, such as new furniture or a new car model.

Although the authors distinguish between 'soft' and 'technological' innovation, they recognise that these are interrelated. Many improvements in aesthetic goods are the result of new technological products and processes. Traditional models of innovation tend to assume that innovation must be vertical – all buyers will prefer the new product to the old at a given price because it is inherently better than the old product. But this ignores two other possibilities: (1) horizontal innovation, where some consumers may prefer the new and other consumers the old even if the new has a similar price to the old; and (2) vertical innovation, which does not involve an improvement in quality, but may involve a lower price.

Soft innovation may include both the above possibilities, but only soft innovations with a high market share are considered significant. Many aesthetic innovations have little economic significance. In general, the more units sold or the greater the market share gained by the new product, the greater its significance is considered to be.

This differs from the approach taken in traditional guidelines, such as the Oslo Manual, which use increased functionality to judge which markets are important. Non-traditional metrics are therefore needed to measure soft innovation. Research and Development (R&D) and patenting activities are traditional measures of innovation. But these tend to focus largely on the scientific and technological to the exclusion of the aesthetic.

For this reason, the authors suggest looking at alternatives to obtain a better idea of the total extent of innovative activity in the economy. By taking information from a number of sources, they are able to draw a consistent picture of the extent of soft innovation. Community Innovation Survey (CIS) and design activity data suggest that soft innovation is extensive across the whole economy, and is particularly important in the non-manufacturing sectors. The survey data also suggest that the rate of innovation in the creative industries may be faster than in other sectors. The employment data show that seven times as many people are employed in activities encompassing both soft and TPP innovation in creative and other industries than are estimated to work in R&D, a common measure of innovative activity.

But soft innovation is significant outside the creative sector too, and there are many new product launches that do not involve changed functionality. For example, in the food industry, there is a big turnover in product lines and new ways of selling the same product. The industry also has to respond to changing consumer fashions, as the growth of Fair Trade and organic products has shown. Much of the innovation in this sector is soft innovation, related to different tastes and aesthetic preferences rather than different functionality.

Moreover, there is also significant soft innovation in pharmaceuticals, an industry thought to rely heavily on scientific advances. The launches of new generic pharmaceuticals suggest that soft innovation may be the larger part of such activity in this industry. Only 10 per cent of all new products are considered wholly (functionally) new (Stoneman, 2009).

Taken together, the studies of Stoneman and his research team reveal high and widespread rates of soft innovation. Therefore, the failure of the traditional literature to take note of such innovation means that a lot of innovative activity in the economy is being missed. Sub-optimal levels of soft innovation may justify some form of government intervention. Where there is too much or too little innovation, there may be a case for government intervention.

Two factors that the authors identify as important to innovation are rivalry – the impact of one person's ownership of a product on another's enjoyment of that product – and

excludability – the ease with which a product owner or supplier can limit or control ownership by others. Such factors impact on the need for institutions to protect intellectual property rights.

Copyright is therefore very relevant for soft innovation. Different types of design protection are available in Europe against imitation and copying for a fixed period, but there is little evidence that this is sufficient. Registered trademarks protect intellectual property; they enable the accumulation of goodwill and brand awareness, and can be used to sell products in other markets or at future dates.

The survey evidence suggests that businesses do not regard these formal mechanisms as their main means of protecting intellectual property. In some circumstances they prefer non-institutional means, such as trade secrecy and lead times. However, in the absence of alternatives, the different mechanisms do offer varying degrees of protection for soft innovations (Stoneman, 2009).

The recently published book by Verganti (2009) based on former empirical work of the author on the role of design is another important contribution to this field. Verganti analysed companies such as Apple, Nintendo and Alessi in their attempts to develop and create new products and tried to identify the sources of their competitive advantage which is difficult to imitate. According to him, products such as the iPod or Nintendo's Wii overturned our understanding of what a video game means or how we listen to music. Verganti (2009) illustrates how design-driven innovations are developed, a process which does not necessarily involve users – indeed, users may even harm this process in some cases – and which mainly aims at creatingentirely or radically new meaning for a product. Instead, such radical breakthroughs come from involving so-called "interpreters" who have a deep understanding of how people give meaning to things. In this sense, design-driven innovations do not originate from the market, but actually create new markets. In addition to market-pull (user-centered) and technology-push innovation strategies, Verganti therefore introduces design-driven (design push) innovation strategies. He shows that particular technology-push and design-driven innovations co-evolve as technological and socio-cultural developments are also tightly intermeshed, e.g. new technologies often allow new meaning to be created. While for R&D managers and engineers design is often considered a marginal aspect of product development (e.g. to differentiate to competitors), design-driven companies are able to exploit the full potential of new technologies by creating new meaning.

Open Issues

As the NESTA report shows, the commercial benefits of soft innovation may be very high. Despite considerable evidence that the more traditional types of innovation matter to company profits and sales, there is as yet little evidence on the commercial importance of soft innovation. Returns from copyrights, trademarks and designs may partly reflect this impact, and suggest some positive payoffs to firms, but the evidence is limited, so far. The potential market impact of soft innovation can be illustrated using high-profile examples from budget airlines to cosmetic surgery. These show that soft innovations can be an important contributor to company performance and that they can generate significant returns.

Given the economic potential of soft innovation, it seems logical to extend the range of conventional innovation policies such as tax incentives, government funding of innovation projects, public funding for innovation, labour market intervention, stimulating market contestability and standard-setting to integrate soft innovation as well.

Another interesting question is how critical the regional and cultural environment for soft and design-driven innovation is and how such environments can be created, supported or transferred.

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2.9 User Created Content (OECD)

The notion of user generated content can be interpreted as one aspect of the more general phenomenon of user innovation and soft innovation discussed above (cf. in NESTA 2008, “production of content for existing products” is one of five types of user-led innovation). However, it is mentioned separately here as it focuses on the production end of the value chain rather than the idea phase targeted by the bulk of the user innovation literature. The term refers to various types of media and creative works (written, audio, visual and combined) created by internet and technology users (OECD 2006a). User generated content is one aspect of the perceived wide creative participation in developing digital content that is enabled by the “participatory web” (OECD 2006b), which empowers the user to contribute to developing, rating, collaborating on and distributing content.

There is no common definition of user generated content. However, the OECD proposes three characteristics:

- Publication (work needs to be accessible in some context)
- Creative effort (a certain amount of creative effort was applied)
- Creation outside established professional routines and practices

The emergence of user created content has fundamentally changed the dominant modes of content creation and diffusion in the creative content sector, in particular in the books, music, audiovisual (film and television), video games and cultural spaces sub-sectors (Mateos-Garcia et al 2007).

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2.10 Value Innovation (Kim and Mauborgne)

The notion of value innovation was introduced by Kim and Mauborgne (1997, 1999) who stress that innovations which create a true sustainable competitive advantage have to generate a leap in value for the customers. Value innovation is more than just being a technology leader or market pioneer, it is about creating new values which allow to open up new and uncontested market space. Value innovation occurs when innovation is aligned with buyer utility, price and cost positions in a new unique way. Such a strategy goes beyond what traditional strategic thinking would suggest (e.g. Porter 1985) but often combines differentiation and low cost simultaneously.

The process of opening up and creating such new market spaces have been defined later as “Blue Ocean Strategy”. Kim and Mauborgne published in 2005 their best-selling book on “Blue Ocean Strategy” where value innovation is considered as cornerstone of their proposed strategic framework which became widely discussed and popular in strategic management. They argue that in blue oceans competition is “irrelevant” because the rules of the game are not defined yet. Blue ocean is the contrasted with red oceans, which represent all the existing industries today where industry boundaries are defined and competitive rules are well known. Kim and Mauborgne argue that companies in nowadays economy need to go beyond competing, they have to create blue oceans with new product and growth opportunities. Based on illustrative cases such as the invention of the “Cirque du Soleil”, the entertainment show which combines theatre and circus, they illustrate that such companies or entrepreneurs didn’t use the existing competition as their benchmark. Value innovation is created in the area where an innovation affects both its cost structure and its value proposition to buyers what they call the simultaneous pursuit of differentiation and low cost. Is the company able to develop such a new value proposition and creates a blue ocean if often can create high imitation barriers.

Kim and Mauborgne, both INSEAD professors, have unequivocally a strategic management perspective on innovation assuming that top-management can design and control the innovation process to a large extent, their concept is thus a counter-trend to many other new innovation approaches which displace the dominant role of management to control innovation but rest on innovation communities and user networks to govern innovations. Kim and Mauborgne (2005, 17) define that value innovation *“is about strategy that embraces the entire system of a company’s activities”*. Value innovation is based on the view that firms enact their environment and that the industry structure can be *“reconstructed by the actions and beliefs of industry players”*. They call their strategic perspective accordingly a reconstructionist view on strategy, opposed to the traditional structuralized or market-based view on strategy dominated by the Industrial Organization (IO) economics literature. More interestingly, they connect their perspective with Schumpeter’s work and the endogenous growth theory arguing that any organization can create new patterns and knowledge by reconstructing existing data and market elements. In their view this is a new type of combination (compared to Schumpeter’s original notion of “new combination of productive means), i.e. combination is the reconstruction of existing technologies and buyer values that reside across existing industry boundaries which is more than combing technologies, methods or production (Kim and Mauborgne 2005). Combination in the traditional sense means often maximising technological possibilities to discover innovation solutions, i.e. to find a solution for an existing problem, while reconstructing means the redefinition of the existing problem itself.

“Reach Beyond Existing Demand” is one of the six key principles to realise a Blue Ocean Strategy and deals with the role of customers for developing innovation. They argue that the more intense the competition is, the more customized the products are. However, they claim, that companies should not concentrate on customers but should look to noncustomers to identify commonalities in what buyers value, hence, the credo is to look at commonalities and not at the differences between customers (the traditional view).

The work of Kim and Mauborgne is also related to the work of Markides (1997) and others who argue that companies can strategically innovate and thereby break established rules of competition and businesses, innovations which are initiated, steered and even invented to actively by the top-management. This perspective on innovation does not advocate to involve actively the potential customers but has rather a analytical view how to discover new customer needs and markets. Markides (1997), for instance, argues in that respect: "*New ideas merge more easily if mangers can escape their mechanistic way of thinking and look at an issue form different perspectives … for example, instead of thinking "This is our customer, this is what he or she wand, and this is how we can offer is," start by asking, "What are our unique capabilities, what specific needs can we satisfy, and who will be the right customer to approach?"".* Companies like Apple, Dell, Southwest Airlines or Swatch are typically taken as illustration of such an approach.

Open Issues

The term value innovation and blue ocean strategy have been discussed heavily in the strategic management literature, consultancy, and business schools and have inspired management thinking in many (often large) corporations. Although many successful examples are well known there exist also many cases where market pioneers have failed. An interesting question is to what extent established corporations will be able to create new markets and industries and thereby re-invent themselves. Only a very few companies may probably be able to realise indeed such strategically managed innovations which often requires organistional and cultural change, too.

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2.11 Eco-Innovation Models (Stahel, Braungarth, Lovins)

Eco-innovations are product, process and system innovations that reduce energy and resource consumption at any stage of the product lifecycle (Bleischwitz et al 2009). Eco-innovation has become a prominent policy concept to integrate measures from environmental, industrial and innovation policy which promote sustainable production and consumption patterns.

Pursuing eco-innovation requires a sound understanding of the environmental impact of material flows and a sophisticated set of metrics such as the measurement of material input per unit of service (MIPS) (ibid.). Innovation that focuses on the strict application of these metrics could be interpreted as a new innovation mode as it requires distinctly different solutioning and design approaches.

Some authors have suggested that effective eco-innovation needs to be based on radically different innovation models. One type of new model aims to ensure the consistency of material flows affected by an innovation with resource flows in the eco-sphere.

One of these concepts that has become quite prominent recently is the “cradle to cradle” approach (Braungart 2002, Stahel 1982), which implies a radical “upcycling” approach to innovation and design: “Cradle to Cradle: A model of industrial systems in which material flows cyclically in appropriate, continuous biological or technical nutrient cycles. All waste materials are productively re-incorporated into new production and use phases, i.e. "waste equals food.""[7] The cradle to cradle design concept is intended to develop highly profitable products, whose components are able to circulate in biological and technical loops with positive effects on the environment and health. Accordingly, efficient remanufacturing and cradle to cradle concept products have to be designed taking the whole life cycle into account, starting from their development through their use and right up to their reuse or disposal. Furthermore, flexible and adaptable tools and production facilities as well as product-accompanying information systems are necessary to provide data about the product status (Seliger 2007).

Another concept from the context of eco-innovation that indicates a potential novel innovation pattern is “biomimicry” i.e. the emulation of processes and functions found in nature (Lovins 2008).

Finally, a number of authors suggest a paradigm shift towards innovation models that focus on the provision of performance, functions, use-value or services rather than products. One example is the “performance economy” described by Walter Stahel (Stahel 2006). In Stahel’s framework, a cascade of innovation models is introduced. Depending on the need to be addressed, the most beneficial model is applied.[8]

Open issues

It is unclear under which conditions these new innovation models yield higher sustainability benefits than more classical eco-innovation approaches focussing on resource and energy efficiency or “green” design concepts.

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[7] http://www.braungart.com/terminology.htm accessed 17.11.2009

[8] Stahel suggests a set of models each characterising a certain type of economy: the loop economy, the lake economy and the functional service economy. The performance economy flexibly applies the optimal model for each case.

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2.12 Service Innovation Patterns

In the last decade service innovation has become a topic of growing interest for researchers, industry and policy makers due to the insight that services account for a substantial share of job and wealth creation in most industrial countries. R&D and innovation performed by the service sector is increasingly being recognised since data from the Community innovation survey reveal that service companies are major innovators (Miles 2005, 436).

For some time in the academic debate, service innovation was analysed on the basis of concepts from the realm of innovation in manufacturing sectors.

Nowadays, a number of researchers are arguing that service innovation has its own distinctly different patterns accommodating the specific characteristics of services such as intangibility, relevance of perception of performance, simultaneity, interactivity, relevance of location (e.g. Miles 2005).

Some part of service innovation displays “supplier driven characteristics,” i.e. adoption of technology as a key feature of innovation in services. In particular, the adoption of IT technologies has long been discussed as the central mechanism of service innovation and is relatively well understood.

However, new insights and perspectives on the nature of service innovation have been emerging. The following lines of debate can be distinguished:

- Industrialisation, i.e. modularisation, standardisation, automation of services (Miles 2005)
- Modelling and simulation of services (Böttcher and Fähnrich 2009)
- Service engineering(service science (standardised service innovation based on scientific methods) (Spohrer and Kwan 2009)
- Spatial redistribution – international labour division based on modularisation (Miles 2005)
- Hybrid value creation (Möslein 2009, Bryson 2008)
  Integrated innovation of product-service systems and blurring of boundaries between the manufacturing and services sectors
- Service co-creation, i.e. customers as co-developers, co-creators and co-producers of services with a focus on value in use (Edvardsson et al 2006)
- Finally, there is a line of debate that discusses social innovation (see below) as a form of service innovation (Cipolla 2008).

Open issues

The need for scientific research on services (services science) is contested, however, it is unclear whether service engineering and service co-creation are contradictory or complementary models.

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2.13 State-driven Innovation

The state has always played a major role in innovation dynamics in particular by setting institutional framework conditions such as legislation and regulation, but also as a relevant customer via public procurement of goods and services in areas such as education, health the military and security. In addition, ever since the establishment of research and innovation as a relevant policy domain, governments have sought to actively influence innovation through policy instruments such as financial incentives, demand fostering, technology transfer measures and systemic instruments. In the last decades there has been an emphasis on enhancing the competitiveness of industries and innovation systems and some innovations can even be labeled as 'state-driven innovations'.[9] An aim of state intervention has been to limit the risks arising from technological and scientific development.

There are two relatively recent trends in RTI policy that seem to be causing specific innovation patterns:

- Reflexive innovation policy, i.e. the setting up of multi-actor, multi-level learning processes as a means of innovation policy (Voß et al 2006). In particular, the attempt to establish participatory technology development in public domains (e.g. for low energy housing).
- An increasing urge to direct RTI policy towards global challenges (EU 2008) and in particular the reduction of carbon emissions in response to climate change.
- Alignment of innovation policy with environmental and other policy realms (eco-innovation).

Open issues

At European as well as national level, state funded research programmes with demand-driven development goals and reflexive approaches may lead to a new pattern of state funded participatory innovation with experimental features (strategic niche management).

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[9] For an overview of the history of science and technology policy, cf. Elzinga and Jamison (1995)

2.14 Innovation in the Public Sector (Windrum and Koch)

The following considerations are mainly based on the results of the PUBLIN Project which was a research project under the EU 5th Framework Programme (see also Koch et al. 2006). The main objective of PUBLIN was to develop a consistent and general basis of understanding of the main processes of public sector innovation and policy learning. These results have been amended by other systematic insights on public sector innovation from recent studies and projects on the topic, e.g. from a recent publication handbook on Innovation in Public Sector Services (Windrum, 2008) and an ongoing project on public sector innovation in Australia (DIISR, 2009).

A range of studies and publications on the development of new products, new production processes and new behaviour in market-based companies have contributed to understanding the main processes underlying social and economic change in modern economies. It is therefore quite surprising that the innovation literature has almost completely neglected what is in fact a major aspect of all European economies: Innovation in the public sector.

Generally, activities by public organisations and institutions are mainly seen as either providing the regulatory frameworks for innovation activities or as more or less passive providers of inputs to private sector innovation, or as recipients and users of innovative products generated by a "private sector" of market based agents. But the role of public sector activities is more important than this – more important for socio-economic development and for the achievement of the welfare objectives that underpin the goals of public activities and policies (Koch and Hauknes, 2005).

What happens in this part of the economy has major implications for the economy as a whole. The public sector has traditionally played a crucial role as an enabler of research in academia and in the private sector, but historically, this sector has often played a more direct role when public research programs pioneered the development of major new technologies. Further, as new processes, new technology, and new media become more pervasive, there is an increasing expectation that these developments will be reflected in the way public sector agencies interact with both individuals and businesses (DIISR, 2009).

The public sector is likely to continue to play this role, and the story of technical revolutions and administrative innovations cannot be complete without studying innovation in this sector. The increasing complexity of modern societies and their institutions are making such investigations even more important.

At the same time, public sector innovation also has an impact on productivity and, ultimately, on living standards. The public sector is sufficiently large and important a sector of the economy and society that effective regulation, efficient public services, and a responsive and innovative public sector will obviously have a substantial influence on overall productivity and the quality of living.

The PUBLIN project describes the differences between the public and private sectors with regard to innovation (Halvorsen et al., 2005):

- Public organizations are typically the primary supplier of services and do not compete in order to maximize profits. This lack of competition is widely held to mean a lack of incentives for improvement. At the same time, the notion that the connection between a firm's behaviour and economic reward is the central and in fact only driver for innovation is too simplistic. Public sector workers may be motivated to innovate through idealism, the joy of creating something new, an intense interest in the topic at hand, career ambitions, etc.
- Thus, one obvious difference between the public and private sectors is that the public sector is not profit driven in the business sense. However, the motivations for innovation found in the public sector are probably also present in private firms.

The fact that public institutions are not profit driven should not lead to the belief that public sector employees and managers are not concerned about financial matters. As is the case within private companies, public sector units and organisations also fight for funding and influence.

- Another factor that differentiates the public sector from the private one is the unit of analysis. Apart from publicly owned companies, most public institutions are part of a larger chain of command and control where it is harder to draw a line between the different parts of the system – and where legal frameworks provide little help in doing so. For instance, public agencies – like research councils or directorates of health – interact closely with ministries as well as subordinate institutions and "users". The innovation activities in these institutions are heavily influenced by decisions made above and below in the chain of command. The closest parallel in the private sector are large conglomerates or multinational companies.
- Another important difference is that the political aspect is much more relevant in the public than in the private sector. Policy decisions normally affect companies indirectly, through laws, regulations and financial support. The public sector is, at least formally, controlled by elected politicians. The intimate link between this governance dimension and the funding of current activities implies a very strong link between ownership and control on the one hand and the growth strategies of the subsidiary organizations on the other.
- Just as important are the differences in management incentives. Public managers are in general more likely to receive lower and less performance based material benefits, which may influence their willingness to take risks. It may be that the public sector – on an aggregate level – recruits fewer risk-taking entrepreneurs than the private sector, relatively speaking, due to the expectations of rewards or penalties of entrepreneurial activity.
- It is also likely that innovative private companies are more likely to accept "failure" than public institutions, in the sense of innovation projects that do not accomplish their expected objectives. Private companies may consider "failures" an integral part of any risky enterprise, while the pressure in the public sector to economize with public funds in the short term – and not waste the public's money – may imply a critical disincentive to innovation. Therefore, we can expect public organizations to be risk-aversive relative to market-oriented firms, essentially due to the characteristics of the incentive system facing the two kinds of organizations.

Innovation processes in the public sector normally involve both the service level, i.e. front end service providers (e.g. hospitals, schools, police departments, agencies, etc.) and the policy level with its policymakers (civil servants and politicians in regional administrations, councils, ministries, etc.)[10]. Therefore, public sector innovations can be structured along these two levels (Halvorsen et al., 2005; Windrum, 2008):

Service Level:

- New characteristics or design of service products and production processes
- New or altered ways of delivering services or interacting with clients or solving tasks
- New or altered ways of organising or administrating activities
- New or altered ways of interacting with other organisations and knowledge bases

10 Public sector innovations are therefore different to social inventions / innovations. The latter focus generally on a "new law, organization or procedure that changes the ways in which people relate to themselves or to each other, either individually or collectively", (Conger, 2002), whereas the former innovation type focuses particularly on the performance of the public sector institutions themselves.

- New world views, belief systems, missions and strategies.

Policy Level:

- New or altered policies and policy instruments
- New or altered ways of organising or administrating activities
- New or improved ways of interacting with other organisations and knowledge bases
- New world views, belief systems, missions and strategies.

This shows that innovation in the public sector can be as simple as an improved service, or it can be something involving a completely new way for government to interact with the public. It may be an idea borrowed from somewhere else, where it has been identified as best or better practice, or it can be something radically new that has never been seen before and fundamentally changes an approach to an issue (DIISR, 2009).

PUBLIN has mapped different types of barriers to and drivers for innovation, i.e. phenomena that hinder or encourage innovation activities in such public institutions (Koch and Hauknes, 2005). Among the most important barriers to public innovation are size and complexity, professional resistance, risk aversion, and the absence of capacity for organisational learning.

Open Issues

Against this background it becomes clear that the innovation endeavour in the public sector is very complex and challenging, comprising different forms, realms and aspects and including barriers to overcome and the drivers required to do so. This insight calls for a systemic approach, looking at public sector innovation as an assembled set of services, each of them forming part of the whole which has to be improved and developed.

Additionally, and as mentioned above already, innovation is the subject of frequent commentary, most often relating to an entrepreneurial private sector. While it can sometimes appear to have little actual meaning, in reality, it is a concept critical to the public sector and its goal of achieving the best possible community outcomes with limited resources. Innovation in the public sector is therefore about achieving better outcomes by improving policy and program development and the delivery of public services.

Thus, innovation is central to improving public services, whether as a result of making those services better fit their purposes, or by lowering their cost or increasing their number or reach. In a changing economy, the public sector needs to be continually innovating in order to maintain acceptable levels of service and to meet current challenges.

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2.15 Transformative Innovation (Steward, SPRU)

System innovation is a type of innovation that has long been recognised by different strands of innovation research: Researchers in the realm of innovation management use the notion of “paradigm innovation” to describe radically new types of solutions adopted in a certain market (Tidd et al 2005, p.10). Within the framework of the sociology of technology and evolutionary economics, scholars refer to “transitions” (e.g. Geels (2005) for the change from horse-drawn carriages to automobiles) or “socio-economic paradigm change” to characterise innovations that fundamentally change system characteristics.

Thus, system innovation is not a new topic in the academic debate on innovation. At the same time, in sustainability research, there is a growing consensus that only system innovation will yield the reduction of the ecological footprint of production and consumption required to save the ecosystem. “Recognition of the threat of climate change, and the consequent need to transform energy systems, has been a major factor in a noticeable increase in interest in transformative innovation in recent years“ (Scrase et al p. 27).

This relatively young strand of debate proposes to combine these insights in order to actively promote system transitions that yield a high environmental benefit by fostering “transformative innovations”. Transformative innovations reorganise technological and social elements into a new pattern and thereby introduce “paradigm breaking, system-wide novelty” (Steward, p. 15). They are socio-technical by definition as they involve simultaneous reconfigurations of technological and societal patterns. The advocates of transformative innovation stress that it introduces radical change in a generic sense, but does not necessarily require radical technological innovation. Often a mixture of radical and incremental innovation will be involved. It is emphasised that transformative innovation will always involve multi-actor learning processes.

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2.16 Social Innovation (OECD)

Over the last couple of years there has been a growing interest in the notion of "social innovation" both in academic and policy debates. Numerous articles have been published in recent years and the Stanford Graduate Business School even set up a review of social innovation.[11] However, the term 'social innovation' has still not been specified. Eduardo Poll and Simon Ville (2009) outlined in their latest article that "The term 'social innovation' has entered the discourse of social scientists with particular speed, but there is no consensus regarding its relevance or specific meaning in the social sciences and humanities."

Some authors have defined social innovation by its target which comprises social needs rather than unlocking market opportunities. For instance, the authors of a NESTA report on social innovation (Mulgan et al 2007) argue: "We define social innovation as the development and implementation of new ideas (products, services and models) to meet social needs".

Another strand in the academic literature discusses social innovation as a different mode of innovation characterised by a hybrid profit/non-profit structure. These authors emphasise the crucial role of the non-profit sector of the economy in social innovation. However, in contrast to classical voluntary non-profit activities such as charity or the work of NGOs, social innovation is situated on a continuum between the non-profit sector on the one hand and the public and private sector on the other (Ridley-Duff et al 2008). This applies to different phenomena such as the use of business approaches in voluntary work, as well as the adoption of a social orientation by actors in the business sector. It is argued that the introduction of business practices in the public sector (new public management) on the one hand and the emergence of social orientation within business (corporate social responsibility) have caused a blurring of the boundaries between these economic sectors.

As a result, the "social enterprise" has been emerging as the core "social innovator" that transcends the traditional boundaries between the private and the voluntary sector. Ridley-Duff et al. (2008, 4) define the social enterprise in the following way: "The social enterprise is a complex discourse, embracing the language, concepts and practices created by:

- Enterprises that bridge the boundaries between the private and voluntary sectors (e.g. trading charities and mutual societies).
- Enterprises that bridge the boundaries between the private and government sectors (e.g. housing associations and partnerships in the Health Sector).
- Enterprises that bridge the boundaries between government and voluntary sectors (e.g. enterprise / employment support services provided under contract).
- Enterprises that internalise a social orientation, democratic governance and entrepreneurial trading (e.g. co-operatives / employee-owned / co-owned businesses)"

A recent report by the OECD (2009) provides a review of the concept and describes the state of development of social enterprises in the OECD member states.

A third line of debate focuses on social innovation as a change in behaviour and relationships rather than the introduction of new products and technologies. In this context,[12] Manzini (2008, p.) offers the following definition: "Social innovations: changes in the way individuals or communities act to get a result (i.e. to solve a problem or to generate new opportunities). These innovations are driven by behaviours changes (more than by technology or market) and they emerge from bottom-up processes (more than from top-down ones)."

[11] http://www.ssireview.org/

[12] This understanding could be incorporated in the widest definition of "social enterprise". However, we prefer to make a distinction because a different pattern change seems to underlie this definition.

For Manzini, the collaborative provision of services by groups of citizens, such as co-housing or childcare initiatives, is the most relevant format of social innovation. In the same way as the social enterprise, these innovations cannot be conceptualised using established economic terms. On the one hand, they involve voluntary work but, on the other, they fulfil societal functions that are otherwise provided via market mechanisms or public services such as childcare and healthcare.

The notion of “relational innovation” (Cipolla 2008) has been proposed to emphasise the fact that a change in human relationships lies at the core of this type of social innovation. However, in contrast to classical “organisational innovation” that involves organisational changes rather than technological ones, relational innovations are situated outside the firm.

Another concept that can be linked to this understanding of social innovation as a newly emerging pattern is the recognition of sharing as an important aspect of value creation (Benkler 2004). Benkler argues that sharing as a mode of value creation has always played an important role, but is increasingly entering market arenas with the advent of the internet-based knowledge economy.

Open Issues

The concept of social innovation is still evolving in the academic debate. A number of diverse aspects are being discussed under the headings:

- The emergence of innovation actors and innovation activities that cross the boundaries between voluntary work and the provision of products and services through public/private sectors.
- A standard comprehension of the term ‘social innovation’ has not yet been established. It seems politically relevant to adopt a broad and inclusive concept of the social enterprise to avoid the exclusion of relevant aspects at an early stage, in particular when resources are allocated to the sector (e.g. Ridley-Duff 2008).
- The application of private or public sector rules may not be appropriate for social innovation. Standards and norms enabling the hybrid form of economic activity may be needed (OECD) .
- So far, the challenges social innovation will pose to legislation are too little understood (e.g. OECD 2009).
- If social innovation has indeed the potential to provide an increasing share of solutions, enabling institutions and platforms need to be developed.
- Will the capability for social innovation become a key factor for competitiveness?

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3 A framework for scanning weak signals

Next to the analysis of relevant academic innovation literature, the INFU team collected early signals of changes (so-called weak signals) in a bottom-up approach. The aim was to collect real cases of new innovation schemes and "popular" visions being applied in public debates from various sources. To ensure a clear and focused result without restricting the scanning to "what we already know", the framework is based on a “light definition” of weak signals and wild cards. The initial results of the iKNOW project, also funded by the European Commission as part of its Blue Sky initiatives within the SSH Programme of FP 7, were integrated into the framework. The iKNOW project aims at advancing tools related to events and developments (e.g. wild cards and weak signals) which are potentially shaping and shaking the future of science, technology and innovation.[13]

The scanning framework includes so-called aspects which follow a threefold aim: Most of the aspects serve as guidelines to ensure that the information which will be needed in later phases of exploration and synthesis is adequately captured as early as possible. Other aspects, however, serve communicational purposes, so that the weak signals and/or wild cards can be presented in an interesting and appealing manner on the website. And last but not least, some aspects are important for self-monitoring and fostering awareness of blind spots.

The eleven aspects included in the framework are:

1. Title & Abstract (Aspects 2 + 3)

   A short and self-explanatory title as well as a neutrally formulated abstract provide us with a description of the signal. This is not yet interpreted. A signal can be anything indicating a possible future change in current innovation patterns, e.g. a new project, heatedly discussed topics in web forums, start-up companies, new business cases, patents, articles, interest groups etc.

2. Drivers of / Obstacles to Change (Aspects 4a + 4b)

   Defining the underlying developments which are driving or hindering the weak signal will help to identify “nodes of change” in work package 3.2. By analysing drivers / obstacles, the key issues shaping innovation patterns can be identified. By subdividing the question into six possible dimensions (society, technology, economy, ecology, politics, design), it is possible for the INFU team to self-monitor the results, e.g. by checking if all dimensions are represented equally, or if certain dimensions stand out and if so, why?

3. Indication of the Weak Signal / Wild Card (Aspect 5)

   In this section, the weak signal is interpreted: What could the weak signal indicate? What impact could it have in the future? Is it maybe even a potential wild card? This aspect helps us to define visions in work package 2.

4. Sector / cultural specifics (Aspect 6)

   Since, in work package 2, the weak signals will be amplified to other sectors, cultures, milieus etc., this aspect defines the current sector or culture of the weak signal.

5. Sources & Contacts (Aspects 7 + 9)

   By documenting where the weak signal was found, and which person or group is associated with it, it is possible to identify the first communication channels and experts who could be involved later on in the process (work package 2 and 3).

6. Informal Remarks & Picture (Aspects 8 + 11)

[13] See: http://wiwe.iknowfutures.eu/

Both aspects will help to communicate the weak signal on the website in an appealing and maybe also in a more blog-like (personal) manner.

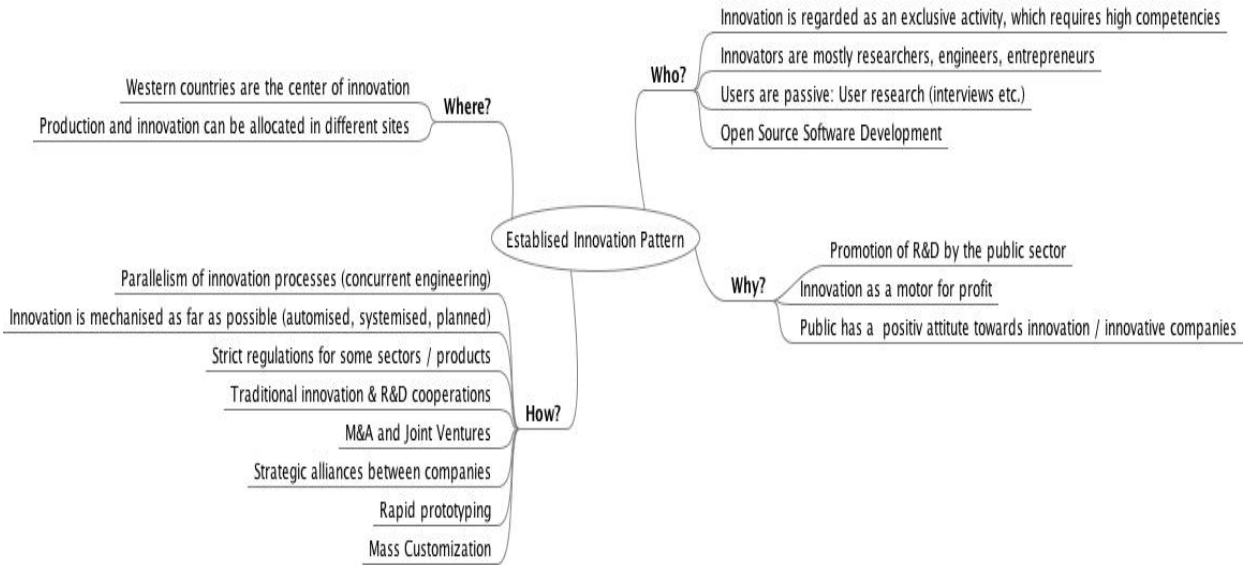
7. Estimated Diffusion & Institute (Aspects 10 + 1)

   Aspect 10 enables all partners to comment if needed and amend the weak signals with similar projects in other contexts, sectors or cultures. It will also help in work package 2 where weak signals will be amplified. Aspect 1 was included to document who within the project team found the weak signal and therefore might be able to answer further questions.

Scanning Process and Sources

In order to identify changes in the current innovation patterns, it was necessary to agree on characteristics of current innovation patterns in Europe. Therefore a clustered collection of key words was developed, roughly sketching what all the project partners perceive to be currently established innovation patterns, in order to help directthe scanning process. This discussion also used findings from the literature review.

Figure 1: Selection of key words sketching current innovation patterns



Source: Own depiction

In addition to a free search, which aimed at finding phenomena that stand out from the established innovation patterns, the project team also agreed on a list of sources, which was then scanned systematically back to the year 2007. The list of sources was amended during the scanning process in order to include knowledge gained whilst searching. The sources selected include daily newspapers from Europe and other world regions, daily newspapers with a business focus, magazines with a technological, business, or innovation focus and websites as well as blogs on innovation and research. Scientific journals were excluded from the search, since they were included in the academic innovation literature review.

The following sources were used:

Daily Newspapers
Süddeutsche Zeitung (Germany)
New York Times (US)
BBC News (Britain)

China Daily (China)
The Mail (South Africa)

Magazines
Technology Review
Harvard Business Manager
The Economist
Wired

Blogs & Websites
www.work-innovation.de/blog/
www.radikale-innovation.com/
www.ideengeber.org/
blog.futurelab.net/
imaginatikresearch.blogspot.com/
www.innovationtools.com/Weblog/innovation-Weblog.asp
endlessinnovation.typepad.com/
www.mootee.typepad.com/
insideedgeinnovation.wordpress.com/
www.philmckinney.com/blog.html
blogs.ec.europa.eu/innovationunlimited/
www.innovationjournalism.org/blog/
www.mind-lab.dk/en/
www.eurekanetwork.org/home.do
www.businessawardseurope.com/?p=235
www.business-strategy-innovation.com/
www.researchoninnovation.org/
www.geistesblitz.de/about/
www.dius.gov.uk/innovation
innovation.alltop.com/
www.boardofinnovation.com/
www.innovations-report.de/
www.mass-customization.de/
www.crowdsourcing.com
blog.openinnovation.net/
www.idm-blog.info/category/aktuell/
www.innovationwatch.com
www.fastfuture.com
basreus.nl/
www.johnwinsor.com/my_weblog/
www.openp2pdesign.org/blog/
chrislawer.blogs.com/chris_lawer/
outsideinnovation.blogs.com/

4 Collection of weak signals of changes in innovation patterns

In the following, the weak signals are presented, clustered into 14 types and patterns. The clustering was done using existing concepts (derived from the literature), although new terms for novel innovation patterns were also introduced since not all the phenomena are adequately treated in the academic literature (so far). However, the presented structure is not the final one. It is most likely that the signals can be re-clustered and condensed as some point in similar directions regarding possible future changes in current European innovation patterns. In the following, the weak signals are presented in an interim order. Clearly, a number of these weak signals could be categorised under more than one headline.

We distinguish the following clusters of innovation patterns:

- Idea Generation / Fuzzy Front End,
- Innovation Culture,
- Customer / User Integration,
- Crowdsourcing,
- Closing Innovation,
- Innovation Policy,
- Public Innovation,
- Social Innovation,
- Open Design / Open Objects,
- Global Knowledge Sharing,
- Attitude Towards / Awareness of Innovation,
- Non–Western Innovation / Shift in Innovation Gravity,
- Lifecycle Thinking in Innovation.

A more elaborated mapping and clustering of the innovation patterns will be carried out in the next work package of the INFU project.

4.1 Idea Generation / Fuzzy Front End

4.1.1 Holistic Innovation – Fusion of Product and Service Innovations

1) Institute		
Z_punkt		
2) Name		
Holistic Innovation – Fusion of Product and Service Innovations		
3) Abstract		
The successful creation of innovations is considered to be one of the key factors for companies to generate sustainable competitive advantages and corporate growth. But the exclusive focus on creating smashing new product innovations barely accounts for achieving these economic targets. Therefore more and more companies seek for new ways to enlarge the customer value and the related product success by enhancing products with suitable service innovations. The classic example is Apple´s iPod and the integration of comprehensive service offers by iTunes.		
4a) Dimensions	**X**	**Driver**
Social	X	Time is becoming a scare good for more and more people. Seeking for more quality of life they increasingly turn to services, which offer support in handling everyday life. Holistic solutions, integrating products and service innovation, reduce complexity and therefore can help saving time.
Technological		
Economic / Industrial	X	The growing competitive pressure, particularly in the consumer goods industry has increased the overall quality standards. Products become less and less distinguishable. With the offer of service innovations and fascinating worlds of experience companies hope to set themselves apart from their competitors.
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		

Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	The complementation of product innovations with service innovations is increasingly gaining importance due to factors of differentiation and customer demands. In order to develop successful holistic concepts, companies might have to optimise and eventually rethink their ways of creating innovations, in particular concerning the integral organisation of product and service development departments.
Potential “innovation wild card”	X	“Service is everything”: Imaginable is e.g. radically green economy, where individual consumers rarely buy products (e.g. cars), but rather pay for the usage of products. This would boost the importance of service innovations.
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet		
Daily Newspaper		
Magazine		
Scientific Literature	x	SHELTON, R., (2009), Integrating Product and Service Innovation: Industry leaders complement their product offerings with service innovations to boost overall customer value, in: Research Technology Management, Issue May - June 2009, p. 38 - 44
Studies		
Conferences / Lectures		
TV		

Personal Communication		
Other		

8) Informal Remarks

4.1.2 Street Fashion Blogs

1) Institute
SDS
2) Name
Street Fashion Blogs
3) Abstract
Street fashion blogs are at the beginning the initiative of anonymous people posting in their blogs pictures they took in the area where they live of other people they consider dressed in an original and cool way. Most of them are not professional cool hunters. Some of these blogs are being progressively recognised as inspiration or trend-setting by the fashion community. (For example, thesartorialist blog was selected by Time Magazine as one of Top 100 Design Influences). A series of these street fashion blogs are then used as sources of inspiration for the fashion community and for trends watching in general . The innovation process consists in a diffused community of people that all other the world (especially in places recognised for their trend setting influence) selects innovative signals in the everyday life and provides them as a tool for creative industry.

4a) Dimensions	**X**	**Driver**
Social	X	Fashion is currently facing the local/global trend: A certain fashion sense (usually from a specific location) can be potentially followed, liked or unliked or promoted as inspiration in another par of the world. People do not dislike mixity and multi-cultural inspirations in the way they wear themselves. + growing need of personalised and customised clothes… far from the big trends of Milan and Paris fashion companies.
Technological	X	Based on widely spread and extremely low cost technological tools like blogs that allow anonymous people to meet and generate (fashion) communities.
Economic / Industrial	X	idem
Environmental		
Political		
Design / Art		

4a) Dimensions	X	Obstacle
Social		
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Anonymous people with interesting sources can become innovators in fashion, by being elected so by the community.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
This weak signal is specific to the fashion sector.		
7) Source	**X**	**Please specify**
Internet	X	http://thesartorialist.blogspot.com/ http://hel-looks.com http://streetpepper.com http://stylescout.blopspot.com
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication	X	25yo friend from California
Other		
8) Informal Remarks		

Fashion blogs represent a process to recognise and capture diffused creativity and make it available for innovation.

This makes it clear how a simple picture being taken in Europe can influence the taste for fashion in people — and therefore evolving their local fashion system, too — in other parts of the world.

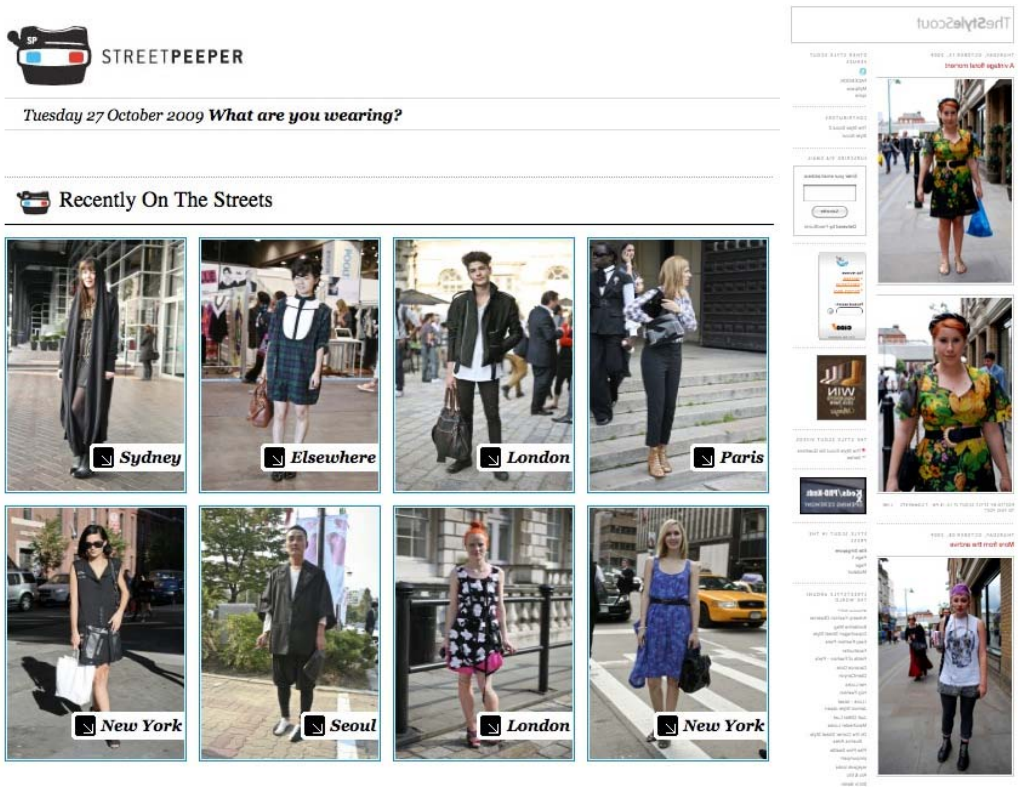
9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
Potentially World-wide		Hundreds of similar blogs.

11) Picture



4.1.3 System of living for the Cité du Design

1) Institute		
SDS		
2) Name		
Systems of living for the Cité du Design		
3) Abstract		
The Cité du Design, a new public institution dedicated to research, education and dissemination of design in Saint-Etienne, France initiated a study to define its own organisation as a multi-dimentional public service in a participative way. The innovation process consisted in involving in a story-telling process a large sample of stakeholders related to the future institution (i.e. professional designers, companies, local authorities, citizen of Saint-Étienne, other national/European design related parties...). The corpus of more than 150 stories collected constitutes a 'collective projection' from which specifications and visualisations of the macro-service Cité du Design were developed.		
4a) Dimensions	**X**	**Driver**
Social	X	Growing awareness of public views and participation for large scaled projects such as Cité du Design. Systems of Living provides an original format enabling participation of large number of very different players to the innovation process.
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art	X	Based on service design approaches
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial	X	Quiet long and time consuming process
Environmental		
Political		

Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Rather incremental change both the size of the sample of people involved and the nature of the creative inputs based on narrations from the user point of view.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
For the moment experimented in local city/territory developement		
7) Source	**X**	**Please specify**
Internet	X	www.sustainable-everyday.net/citedudesign
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		
8) Informal Remarks		

9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
SDS runs the System de Vie study for the Cité du Design	Story-telling as tool used to facilitate the projective process from the user point of view is probably rather common in	Story-telling used to engage population on the territory at larger scale is probably much

	user centred research.	less diffused.

11) Picture

4.1.4 CONIFER research

1) Institute		
SDS		
2) Name		
CONIFER Research		
3) Abstract		
CONIFER collaborated with Steelcase, USA, on the Wood Furniture project, a strategic perspective on private office furniture starting from customer's aims and objectives. For this project, the innovation process is based on CONIFER training a team of industrial designers, marketers, and engineers in ethnographic research approaches and leading members of that team on expeditions into typical workplaces, videotaping people using private offices, and interviewing them. Steelcase Wood set up a four-week program in which team members watched video, brainstormed, and identified key needs, new products and communication that they might address.		
4a) Dimensions	**X**	**Driver**
Social	X	Growing acceptance within users community and companies to promote user-centred approach. Here, a complete user-based process from idea generation to promotion of the final innovation with or by the users themselves.
Technological		
Economic / Industrial	X	Ibid.
Environmental		
Political		
Design / Art	X	Based on user centred design approaches
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial	X	Time consuming and quite expensive research
Environmental		
Political		

Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	This case is in line with the increasing involvement of users into the innovation process and push it one step further to involve the user into the presentation and promotion of the new products in a peer-to-peer interaction.
Potential “innovation wild card”		
Uncertain		

6) Sector specifics / cultural specifics
The case is focused on private furniture.

7) Source	**X**	**Please specify**
Internet		
Daily Newspaper		
Magazine	X	Design Management Journal
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks
Complete user-based process from idea generation to promotion of the final innovation involving the client company employees in doing themselves the work.

9) Contacts

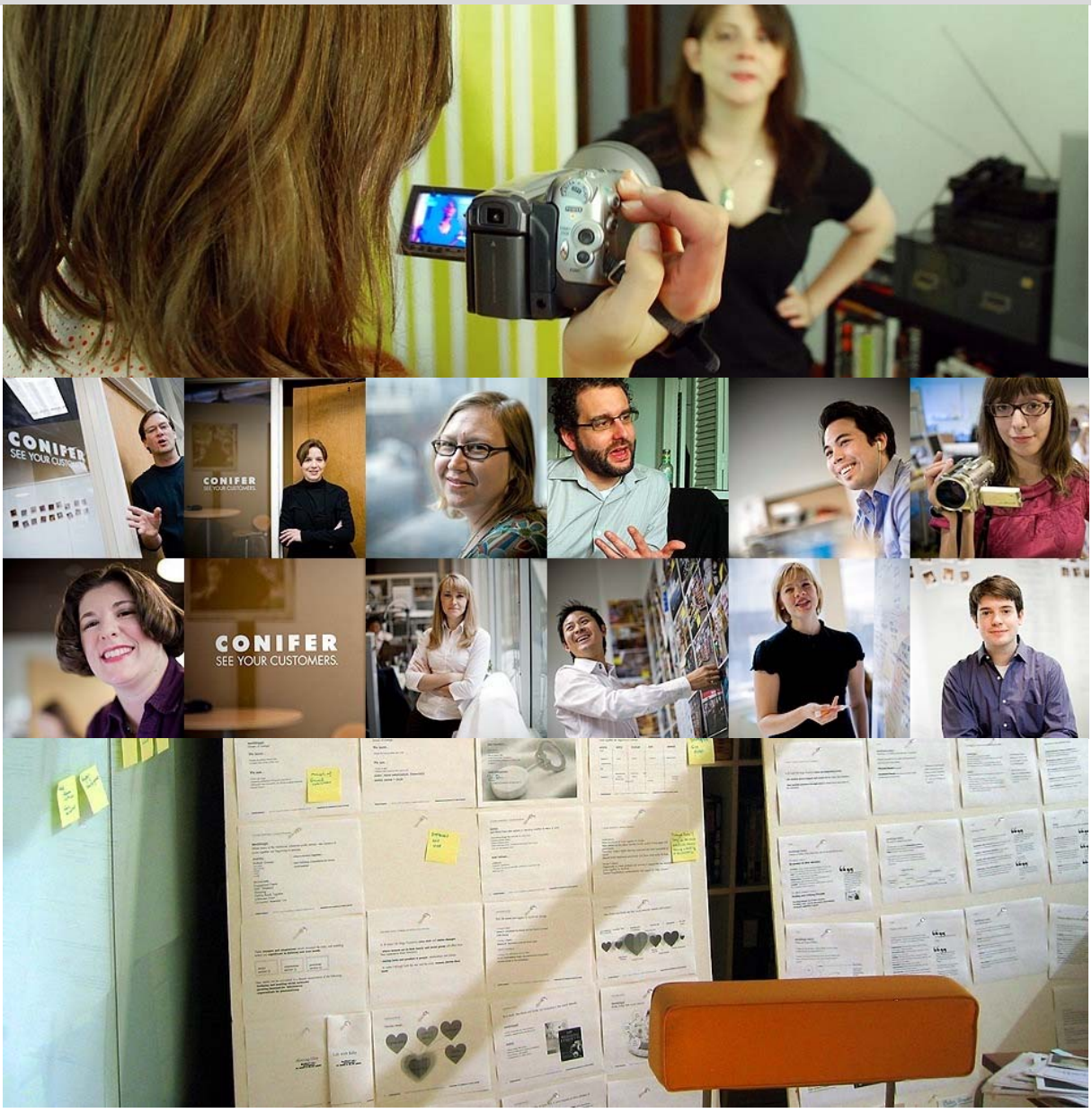
Name	**Contact Details**	**Topic of Interest**

10) Estimated Diffusion

Source	**General Comment**	**Comment on estimated Diffusion**
	This practice belongs to a now recognized and diffused set of	The Conifer specific approach of involving employees from

	ethnographic-like user approaches.	different department of the company and training them to do themselves the field work is more new and probably less diffused.

11) Picture



4.1.5 ECO.officina

1) Institute		
SDS		
2) Name		
ECO.officina		
3) Abstract		
ECO.officina is a software support tool for product innovation. The innovation processes is based on the use of environmental criteria to stimulate the creativity for new products. The difference compared to similar tools is that it intervenes as a stimulator rather than a filter of the creative generation of sustainable concepts. Rather than the evaluation of a finished project in terms of eco sustainability the software tool works as a generator of “design directions” for the very first phases of design innovation process by posing alternatives such as; “How would it look if this office chair was made out of a single material?” “Could a cell-phone be used for a different purpose once it doesn’t work anymore?”		
4a) Dimensions	**X**	**Driver**
Social		
Technological		
Economic / Industrial		
Environmental	X	Redefinition of the role of design and design education within the environmental challenge
Political		
Design / Art	X	Trend trying to turn environmental limitations into opportunities.
4a) Dimensions	**X**	**Obstacle**
Social	X	The creative process can be considered as an individual and private moment which could avoid in many cases the adoption of a software tool in this phase.
Technological		
Economic / Industrial		

Environmental		
Political		
Design / Art	X	This kind of a software tool should have a very rich database of environmental solutions to surpass the risk of too little variety and automatized results.
5a) Indication	**X**	**Please specify**
Change in current innovation patterns		
Potential “innovation wild card”		
Uncertain	X	The environmental constrains are turn into creative stimulation to invent a new sustainable society
6) Sector specifics / cultural specifics		
The tool is used in the product design field.		
7) Source	**X**	**Please specify**
Internet		
Daily Newspaper		
Magazine		
Scientific Literature	X	http://209.85.229.132/search?q=cache:zWBpCYL__rsJ:www.cumulusassociation.org/index.php%3Foption%3Dcom_docman%26task%3Ddoc_view%26gid%3D10+carlo+vezzoli+eco.cathedra+talinn&cd=6&hl=it&ct=clnk&gl=it
Studies		
Conferences / Lectures		
TV		
Personal Communication	X	Carlo Vezzoli carlo.vezzoli@polimi.it
Other		
8) Informal Remarks		

9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated Diffusion**
	This software has been created by RAPI.Lab Indaco, Politecnico di Milano and is being diffused through the Lens international network of design school.	

11) Picture

4.1.6 MINATEC: l'atelier arts & science

1) Institute
SDS
2) Name
MINATEC: l'atelier arts & science
3) Abstract
"L'Atelier Arts-Sciences" is an original partnership between l'Hexagone Scène nationale, a 560 seat theatre, and the CEA Grenoble, one of the ten most important worldwide research centers in micro and nanotechnologies. The innovation process consists in putting together artists and scientists inspiring each other in their practices. The declared objectives are: - To give the opportunity to both artists and scientific researchers to exchange ideas on their respective working fields and practices; - To work together to integrate new technologies into artistic productions. - To encourage the appropriation of contemporary society's new representations induced by scientific and technological changes and inventions. - To enrich the creative process for both artists and scientific researchers. - To help new social issues to emerge & contribute to current philosophical and ethical debates. Regular working residencies give opportunities to both artists and scientific researchers to collaborate for a set period of time - from a few days to several monthes.

4a) Dimensions	**X**	**Driver**
Social	X	Growing need to clarify ethical and social issues about nantechnologies. Minatec contribute to help new social issues related to nanotechnolgies to emerge
Technological	X	Huge amount of discoveries in nanotech field but far more less commercial applications every year. Minatec help to find new applications for nanotechnologies (from hard science to everyday life)
Economic / Industrial	X	Ditto
Environmental		
Political		

Design / Art	X	Science inspired by artists and not only traditionally artists inspired by science…
4a) Dimensions	**X**	**Obstacle**
Social		
Technological	X	The availability of researchers to share and extrapolate their results with artists…
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Breakthrough in classical way of innovating in involving artists to find new technological applications
Potential “innovation wild card”		
Uncertain	X	Real impact of these initiatives for innovation process?
6) Sector specifics / cultural specifics		
This weak signal is specific to the research in nanotechnologies sector.		
7) Source	**X**	**Please specify**
Internet	X	www.ateliers-arts-sciences.eu http://www.ideas-laboratory.com
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		

Other		

8) Informal Remarks

9) Contacts

Name	Contact Details	Topic of Interest
n/a		

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
		The Atelier Arts-Sciences will start by hosting one or two residencies per year. By now, two residencies have took place.

11) Picture

Example: residency 1 “virus/antivirus” with A.Bonnery, choregrapher.

From dance to the “motion pod” manufactured by MOVEA:

4.1.7 Design Thinking in MBA programs

1) Institute
SDS
2) Name
Design Thinking in MBA Programs
3) Abstract
There are more and more new professionals emerging from interdisciplinary master's programs that integrate design, technology, and business. These professionals are trained in "design thinking" with the aim to merge design, business, and technology. The goal is to combine creative confidence and analytic ability. According to a 2003 report by the Danish Design Center, increasing design activity such as design-related employee training boosted a company's revenue on average by 40% more than other companies over a five-year period. Some programs are co-taught by professors from design, business, and other departments, such as at Stanford's Hasso Plattner Institute of Design. Others, such as a partnership between three schools in Helsinki Aalto University, bring together students from various universities for cross-disciplinary project work. Another approach: dual degrees in business administration and design, such as the MBA and Master's in Design program from Illinois Institute of Technology. A particularly interesting example is The International Design Business Management programme (IDBM) in the Aalto University which is a joint teaching and research programme of three Finnish universities all leading and renowned institutions in their respective fields: the Helsinki School of Economics, the University of Art and Design Helsinki and the Helsinki University of Technology. The purpose of the programme is to bring together experts in different fields within the concept of design business management. The objective of the IDBM programme is to train skilled professionals for key roles in international design business. The programme emphasizes the importance of design as a competitive factor among others, such as technology. This programme gives future marketers, engineering experts and designers an opportunity to practice important interpersonal skills through projects and courses.

4a) Dimensions	**X**	**Driver**
Social	X	What could happen if designers think like businessmen, while businessmen can easily connect to designers? So far, a positive and productive thinking emerged.
Technological		
Economic / Industrial	X	Design as a key factor for innovation. Traditionaly designers are hierachly based under the marketing

		units. These MBAs put design on the marketing and Research & Developments levels.
Environmental		
Political		
Design / Art	X	Design thinking even generally misunderstood expands
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial	X	There's no apparent consensus on how to teach it.
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	As designers get deeper and deeper into enterprises, innovation comes from closer and closer to the core of the companies
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet	X	Many references such as: http://www.aaltoyliopisto.info/en/view/innovaatioylio pisto-info/aalto-university http://project.hkkk.fi/idbm/index.html http://www.businessweek.com/innovate/content/se p2009/id20090930_806435.htm?chan=innovation_ design+index+page_special+report+-- +design+thinking
Daily Newspaper		
Magazine		

Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture

From BusinessWeek special report:

World's Best Design Schools 2 of 32

Art Center College of Design/INSEAD
Pasadena, Calif./Fontainebleau, France or Singapore

Programs: Master's in Industrial Design (Art Center College of Design)/MBA (INSEAD)
Business Partnerships: Disney (DIS), Hewlett-Packard (HPQ), Motorola (MOT)
Why it's on the list: As part of an exchange program hosted at INSEAD, Art Center students can apply to take MBA courses for four months. INSEAD students can study with the design students in the eight-week Strategies for Product and Service Development elective, offered through the 10-month MBA program.

4.2 Innovation Culture

4.2.1 Reduce Security Control to Push Innovation

1) Institute		
Z_punkt		
2) Name		
Reduced Security Control to Push Innovation		
3) Abstract		
In a keynote Google's former CIO Douglas Merrill describes Google's approach concerning internal innovation culture as offering employees as much freedom as possible in their working/innovation processes, e.g, by letting them choose any operation system, any location and any software they want to use. This increases the company's rate of return. Any other way would just stifle their productivity in innovation. This has an effect on Google's security policies: Google tries to close the upcoming security-gap in its own infrastructure e.g. by securing their servers rather than opting for the traditional solution, which would be to secure each device, which is used by an employee (and thereby restricting the devices, which can be used: software, computer, browser, etc.).		
4a) Dimensions	**X**	**Driver**
Social		
Technological	X	The technological approach by Google was prompted "Cloud Computing": common business applications online become accessible from a web browser, while the software and data are stored on servers.
Economic / Industrial	X	Innovation cycles are speeding up. This forces companies to think about ways to increase the productivity of their employees. Google was therefore looking for ways to increase innovative freedom for employees without harming IT-security, assuming that increasing freedom to innovate also increases a company returns.
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**

Social	X	Especially according to cloud computing, acceptance is still very low beyond the ICT sector.
Technological	X	It is not yet clear, if protecting own infrastructure is sufficient to close all security-gaps, e.g. encoding internal communication by allowing the use of blogs, messengers etc.
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	This could be a weak signal that the traditional conflicts between security issues and an open innovation culture are coming to a head. Therefore companies are looking for new ways to harmonise the two aspects. This weak signal could also lead to new security innovations.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
Relevant to all sectors that work with ICT applications.		
7) Source	**X**	**Please specify**
Internet	X	http://www.technologyreview.com/blog/editors/23916/?a=f http://www.informationweek.com/cloud-computing/blog/archives/2009/02/survey_fear_slo.html
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		

TV		
Personal Communication		
Other		

8) Informal Remarks

9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture

4.2.2 Google Engineers: 20% of working time for self-initiated projects

1) Institute		
SDS		
2) Name		
Google Engineers, 20% of Working Time for Self-initiated Projects.		
3) Abstract		
Google engineers are encouraged to take 20 percent of their time to work on something company-related that interests them personally. This means that „if you have a great idea, you always have time to run with it."		
4a) Dimensions	**X**	**Driver**
Social	X	Growing need to stimulate sense of auto-achievement and creativity on working spaces
Technological		
Economic / Industrial	X	Related to similar tentatives to stimulate innovation in all departments of the company. This is actually empowering talented people, in order to bring their own best ideas to test and sometimes turn them into reality.
Environmental		
Political		
Design / Art	X	Current tendency to look for talented people outside innovation sectors. Design and creativity where you are not excepting them.
4a) Dimensions	**X**	**Obstacle**
Social	X	The chance that engineers feel like "the company owns me" exists.
Technological		
Economic / Industrial	X	What about the intellectual property of these “un-official projects”?
Environmental		
Political		
Design / Art		

5a) Indication	X	Please specify
Change in current innovation patterns	X	Innovation may come from employees of a company; in this case, it's strongly institutionalized by the company itself.
Potential “innovation wild card”		
Uncertain		

6) Sector specifics / cultural specifics
This weak signal is specific to any company with a high number of employees.

7) Source	X	Please specify
Internet	X	http://www.nytimes.com/2007/10/21/jobs/21pre.html
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks
It's not all about giving employees free time for their own projects; they can also organize into "grouplets", little groups of engineers with a common mission, that can be both internal to the company, or external. "the grouplets need guidance to make sure they are aligned with the company interest. Having a lot of people who are self-organizing can be powerfully positive or negative, and not every idea is a good one. To help deal with that, a number of grouplet organizers meet once a week to make sure they are not at cross-purposes"

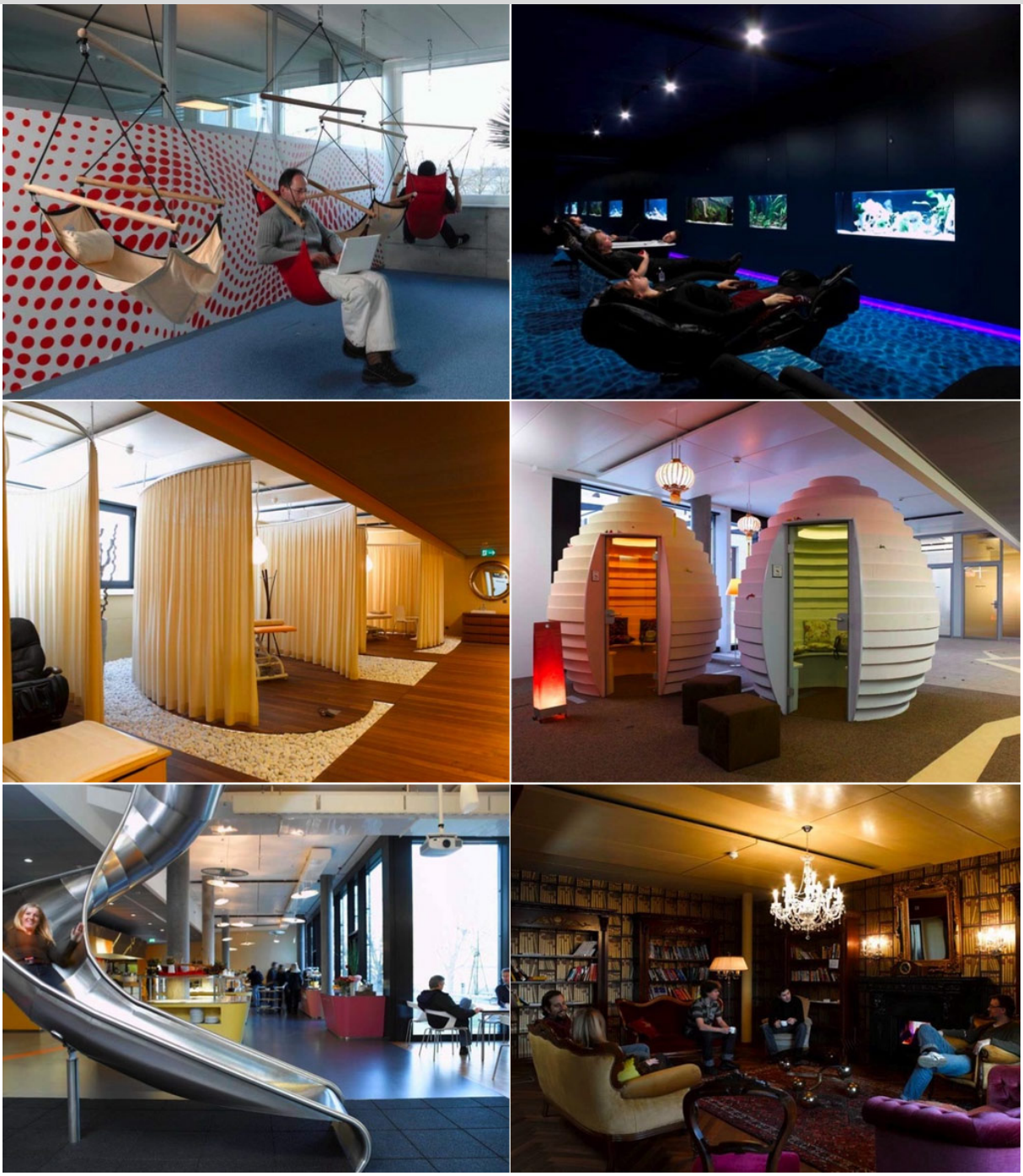
9) Contacts

Name	Contact Details	Topic of Interest
n/a		

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
n/a		

11) Picture



4.2.3 Ideas in Action – High Transparency at Dell Idea Storm

1) Institute		
Z_punkt		
2) Name		
Ideas In Action – High Transparency at Dell Idea Storm		
3) Abstract		
The multinational technology corporation Dell is giving interested users the chance to post ideas on products, best practices and general topics. Other users can comment and further promote or demote them. In a specific section of the website users and interested visitors of the website are able to access general stats such as the overall numbers of posted, promoted, contributed and also implemented ideas. This enables users to track proceeding stages of all contributions.		
4a) Dimensions	**X**	**Driver**
Social	X	The external generation of product and service ideas by customers has received a growing deal of attention by companies. Customers who are willing to share their ideas and specific knowledge with other users and firms are increasingly claiming a higher transparency on what is happening with their ideas.
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial	X	The high transparency might also detain customers to share their ideas as they are afraid that other users or the company itself could adopt their ideas and earn the entire benefits by transforming them into prototypes and eventually commercialising them as groundbreaking innovations.

Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	On the one hand the high transparency concerning the user ideas and their status within the innovation process might animate already participating users to contribute even more and better ideas, on the other hand it might attract novel users who have not been motivated so far to contribute ideas to a “black box”. Crowdsourcing in the early stages of idea generation and evaluation could further spread and lead on to the establishment of external idea generation as the prevalent manner of conducting the fuzzy front end of new product development.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
This Weak Signal is specific to the IT-sector.		
7) Source	**X**	**Please specify**
Internet	X	http://www.ideastorm.com/
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		
8) Informal Remarks		
It is really amazing that Dell is giving the possibility to track the further development and conceptualisation of posted ideas even to people who are not a member of the Idea Storm		

community. We could not find any information on how the ideas are rewarded or on the legal rights that users have concerning their idea – this would be very interesting.

9) Contacts

Name	Contact Details	Topic of Interest
The top 20 idea makers	Contact via the site: http://www.ideastorm.com/ideaTopContributors?pt=Top%20Idea%20Contributors	
The moderator of the website	ideastorm@dell.com	
The dell team working on the project (link does not work at the moment unfortunately!)	http://en.community.dell.com/error.htm?aspxerrorpath=/blogs/direct2dell/pages/Dell-Community-Bio-Page.aspx	

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
http://mystarbucksidea.force.com/		Diffusion to the Consumer Industry

11) Picture

4.2.4 Breeding Tables

1) Institute		
SDS		
2) Name		
Breeding Tables		
3) Abstract		
The innovation process consists here in not designing tables but a software that designs infinite number of models of table with a standardized production process. Randomness is put at the hearth of design process. The computer code creates lots of possible random variations, but the final defining pre-production choices are still made by humans. This is then integrated in a mass-production process: taking into account the specifications of parameters like height, depth, width and load capacity, these computer-generated cutting patterns and associated processing information orchestrate computer controlled laser cutters and bending machines, and seamlessly materialize three-dimensional corpuses.		
4a) Dimensions	**X**	**Driver**
Social	X	Growing trends of personalized/customised objects. Here, each table is different and unique…
Technological	X	A specific algorithm is the way all the process is possible/ lazer cutting technologies widely spread.
Economic / Industrial	X	According to the creators of breading tables, the project – completely outsourced process – is the best way to face fully integrated mass production to reduce costs (e.g. China model)
Environmental		
Political		
Design / Art	X	This method brings unpredictability and novelty to the field. Human choices and discernements are still a relatively big part
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		
Environmental		

Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns		
Potential “innovation wild card”	X	It represents a "first time", in the “outsourced” design process of product in its ability to spread its philosophy to the production and acceptance of the resulting product.
Uncertain		

6) Sector specifics / cultural specifics

This weak signal is specific to furniture design, potentially applicable to any kind of object production and customization.

7) Source	**X**	**Please specify**
Internet	X	http://www.kramweisshaar.com/projects/breeding-tables.html
Daily Newspaper		
Magazine	X	Domus n.879, March 2005.
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

This method brings unpredictability and novelty to the field. Human choices and discernements are still a relatively big part.

9) Contacts

Name	**Contact Details**	**Topic of Interest**

10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated Diffusion**
		Tables from the BREEDING TABLES project are in the permanent collections of PINAKOTHEK DER MODERNE, München, VITRA DESIGN MUSEUM, Weil am Rhein, the CENTRE GEORGES POMPIDOU, Paris and the Museum of Modern Art, New York. The Italian manufacturer MOROSO is distributing two models under license.

4.3 Customer / User Integration

4.3.1 Rapid Innovation Testing

1) Institute		
Z_punkt		
2) Name		
Rapid Innovation Testing		
3) Abstract		
New technologies and the possibilities of digitalisation make innovation processes cheaper and more efficient, as they enable easy testing and evaluation – offline and online. Enterprises increasingly use digital and conventional systems to test an ever-growing number of their ideas and thereby increase the probability of finding good solutions and decrease the probability of disinvestments. Availability of easy and cheap testing also leads to lower barriers for innovations in companies and a change in corporate innovation culture and current research and development processes.		
4a) Dimensions	**X**	**Driver**
Social		
Technological	X	Testing and experiments will become far more pervasive and persuasive as information technology improves while testing grows faster and cheaper. More processes are digitalized, which makes tracing easier.
Economic / Industrial	X	Companies are increasingly forced by their shareholders to reduce costs (for innovation processes) and lower the risk of disinvestments, which often bears the risk of less innovation willingness. An answer could be new ways to test ideas at an early stage.
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		

Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	As innovation / ideas testing becomes more efficient and cheaper, innovation initiatives that used to take months and cost a lot of money to coordinate and launch can be realized much quicker and easier. As the benefits of rapid testing spreads to more and more companies, corporate innovation cultures might change. People feel more motivated to contribute their ideas, new concepts would be tested more often and faster, which would increase innovativeness in general and make it easier to challenge accepted wisdom. It can be assumed that decisions about innovations will be made on a deeper and broader basis of decision knowledge. Many real-world experiments displace few innovation proposals, often handed in from external consultancies. Cheap testing allows constant, continuous, ubiquitous experimentation, which is often the source of innovations, as each experiment - successful or not – leads to new insights.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet	X	http://endlessinnovation.typepad.com/endless_innovation/2009/09/rapid-innovation-means-rapid-evolution.html http://sloanreview.mit.edu/business-insight/articles/2009/3/5139/the-new-faster-face-of-innovation/
Daily Newspaper		

Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

9) Contacts

Name	Contact Details	Topic of Interest
Dr. Brynjolfsson		Professor of management at the MIT Sloan School of Management.
Mr. Schrage		Research fellow at the MIT Center for Digital Business.

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture

4.3.2 Lego Digital Designer (and derivatives)

1) Institute		
SDS		
2) Name		
Lego Digital Designer (and derivatives)		
3) Abstract		
Lego Digital Designer is a software created to let users compose their own masterpieces with Lego bricks and elements. The process of innovation is based on letting customers play with a online user version of the company product development tools, delegating the community of user part of the innovation and marketing process of new products. This software can interact with the platforms *Design byMe*, allowing the user to receive the pieces for their project, together with custom packaging and instructions.		
4a) Dimensions	**X**	**Driver**
Social	X	Strong trend of online games where the sharing within a community is important
Technological	X	Development of 3D online worlds (i.e. Second life; Google Sketch-up...)
Economic / Industrial	X	The traditional positioning of the Lego company as a construction kit was loosing pertinence on the market
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		

5a) Indication	X	Please specify
Change in current innovation patterns	X	From company-centred innovation to an user-empowering process.
Potential “innovation wild card”		
Uncertain		

6) Sector specifics / cultural specifics
This weak signal comes from the toy sectors but is not specific to it.

7) Source	X	Please specify
Internet	X	http://ldd.lego.com/ http://creator.lego.com/en-us/Gallery/gallery.aspx
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks
While they have been updated and made more complicated during the years, now those limits are at least partially overcome by giving the user control over part of the innovation, and share it, innovating through the community.

9) Contacts

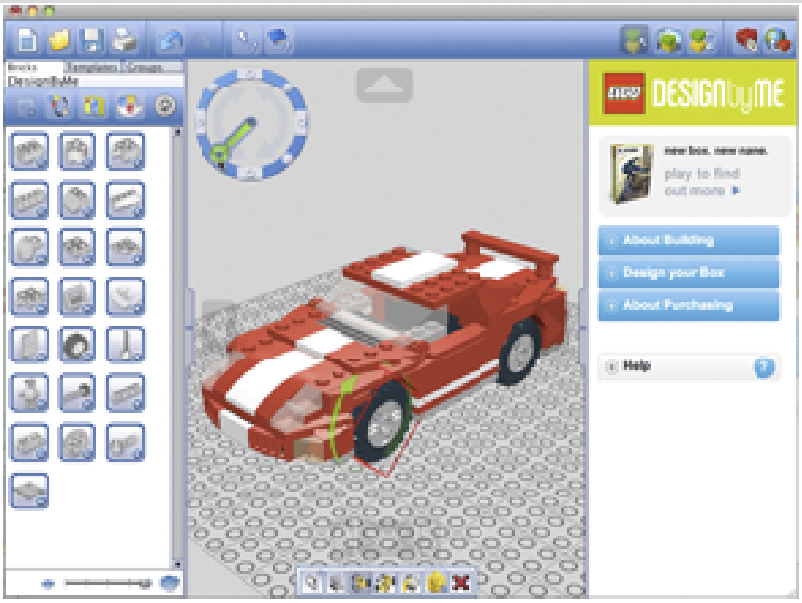
Name	Contact Details	Topic of Interest

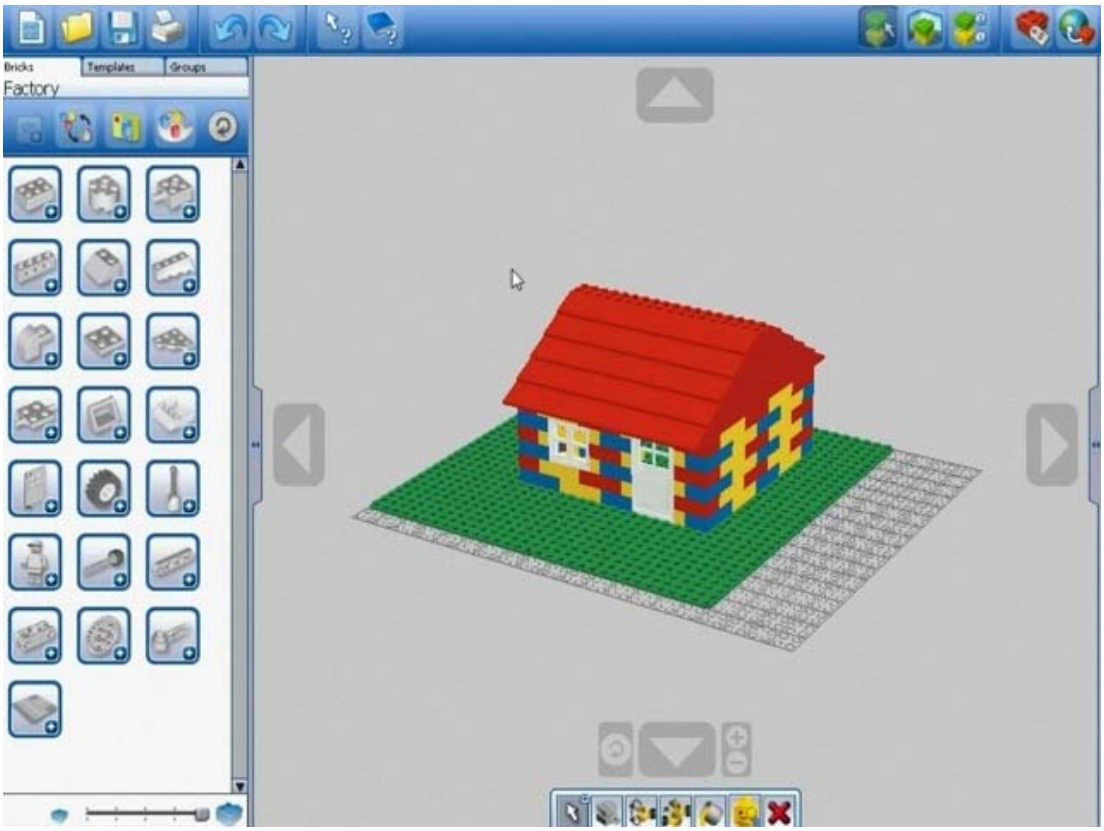
10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
	Design byMe models have a quite important prices and are probably acting more on	The Lego Digital designer is being used to demonstrate principles of 3D engineering in

	revitilising the image of Lego rather than as a sale product in itself.	primary schools.

11) Picture





4.3.3 Sample Lab!

1) Institute		
SDS		
2) Name		
Sample Lab!		
3) Abstract		
Sample Lab!, located in a very crowded shopping area in Tokyo, is a store where products are displayed only for demo. Visitors come and try them and get rewarded by taking home some of the products they have tried... A retail experience that focuses on, and gives consumers, a certain degree of choice, while promoting and testing products and innovations. It actually redefines “tryvertising” (try before you buy). The members can actually try out the latest - and often unreleased – products. In return, they have to complete surveys that help brands, designers and manufacturers to improve and fine-tune their products for the mass market.		
4a) Dimensions	**X**	**Driver**
Social	X	Consumers looking for alternative shopping experiences… Economic crisis lead to changes in consumers attitude: more reasoned purchasing and guarantee of quality required (consumers guides, magazine, blogs, etc.)
Technological		
Economic / Industrial	X	Before, free sampling was always inducted by companies, risking to get negative feelings connected to the brand. Now, there is a growing acceptance to get products sampled in a partially free environment, removing those potentially bad effects.
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social	X	The members may be biased by the fact of knowing to be observed, and therefore making the questionnaires and data collected partially useless.
Technological		

Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Companies can acquire more elements while finalizing a product before starting mass production.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
This is limited usually only to the size of the products (generally small), and their cost (cheap to medium, e.g: laptops).		
7) Source	**X**	**Please specify**
Internet	X	http://www.samplelab-international.com/ http://samplelab.jp/
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		
8) Informal Remarks		
In the end, it's all about allowing Brands to cut through the advertising clutter, and giving the users the Impression to be shopping for free (a fixed small fee is required, though). This method allows companies to undertake a controlled testing process of their products, while having results easily tracked (and users willingly profiled). The only possible drawback of this potentially perfect environment for testing innovations could be the fact that the "enthusiastic consumers" who subscribe for this program might not represent correctly the actual target of each product.		

9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
		The lab in Tokyo had lots of participants since the beginning, and it's now bound to be replicated in dozens of other countries.

11) Picture

Tryvertising lab in Tokyo

4.3.4 ISEU

1) Institute		
SDS		
2) Name		
ISEU		
3) Abstract		
ISEU standing for "Integration of Standardisation, Ecodesign and Users in energy using products" is a research project funded by the Belgian Science Policy. One of its focus is the design of domestic appliances that induces a rational use of the energy by the user. For that purpose, a group of 8 families have been involved into a co-design process including peer-to-peer discussions on the web, ethnographic-like in-depth at home and participation of users to design session. As a final step of the process, mock-up of light switch, thermostat, washing-machines and smart-meters issued from the co-design sessions were delivered at users home. After a period of familiarisation, users were encouraged to present in front of a video camera, the products resulting of the co-design process and explain why they arrive to these solutions, how it will shift their use of energy and why they would adopt it. The output is a complete user centred innovation process where users are involved into all steps from generating initial ideas, developing them and finally advertising them to their peers.		
4a) Dimensions	**X**	**Driver**
Social	X	Inspired by user-centred design approach and experimenting co-design with users. ISEU belongs to complete user-based process from idea generation to promotion of the final innovation with or by the users themselves.
Technological		
Economic / Industrial		
Environmental	X	Product design is growingly concerned with environment concerns and sustainability. The innovation approach involved the users into an innovation process oriented to sustainability both in the product output and in the awareness raising of the participating users.
Political		
Design / Art	x	Based on user centred design approaches
4a) Dimensions	**X**	**Obstacle**
Social		

Technological		
Economic / Industrial	X	Time consuming and demanding innovation process.
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	This case is in line with the increasing involvement of users into the innovation process and push it one step further to involve the user into the presentation and promotion of the new products in a peer-to-peer interaction
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
The case is focused on domestic appliances but it may be generalised to any B2C sectors.		
7) Source	**X**	**Please specify**
Internet		
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures	X	Communication at Energy Efficiency & Behaviours, Maastricht, 19-20 October 2009
TV		
Personal Communication		
Other		
8) Informal Remarks		

9) Contacts		
Name	**Contact Details**	**Topic of Interest**

10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated Diffusion**
SDS took part in the ideation and implementation of the co-design approach		This approach is for the moment limited to a research project experimentation.

11) Picture

4.3.5 Design Council RED – Open Health

1) Institute
SDS
2) Name
Design Council RED – Open Health
3) Abstract
This project made people, patients and front-line workers collaborate by brainstorming ideas, critiquing concepts, testing things out in context and suggesting improvements. The process of innovation consists in introducing patients, professionals and interested people's collaboration in order to develop factors of innovation in the health field instead of the traditional "lab research-based" methods. *"By 2010, one in ten of us will have diabetes. [...]* *We need to design new types of services that tap into people's motivations and relate to their daily lives. [...]* *Working with the Bolton Diabetes Network and Kent County Council over nine months in 2004/5, RED designed and prototyped two new health services."* One of the results of this process is called Me2, a system that supports and enables people to live well with type 2 diabetes. *"These services are designed to be co-created by people and professionals. They represent a shift in thinking in the way we approach preventative healthcare, and demonstrate how design can be used to put patient centred thinking into practice."*

4a) Dimensions	**X**	**Driver**
Social	X	See economic driver
Technological		
Economic / Industrial	X	Growing importance of specific users -like patients suffering diabetes- joined as associations that, due to their numbers and their specific needs, can assure pharmaceutical companies a valuable market target and therefore prompt research in specific fields.
Environmental		
Political	X	Public health institutions — as main actors in the field — is helping making such semi-public programs effective.
Design / Art		

4a) Dimensions	**X**	**Obstacle**

Social		
Technological		
Economic / Industrial		
Environmental		
Political	X	Public health institutions also have to actively contribute in spreading the concept in order to reach a wider effect.
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Health is a field that until now has been driven by research and administration alone. This weak signal introduces how new factors like user-centred approach can contribute to the field. The focus seems to be placed more on ill persons and their needs than on the illness itself.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
This weak signal is specific to the health sector.		
7) Source	**X**	**Please specify**
Internet	X	http://www.designcouncil.info/mt/RED/health/ http://www.designcouncil.info/mt/RED/health/REDHealth01.mov
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

Patients are the centre of this innovation process.
"We set out to see whether we could apply the principles behind these 'open' systems - distributed tools, collaboration between people and professionals - to healthcare systems in order to engage people in their own healthcare."

9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture

4.4 Crowdsourcing

4.4.1 Crown Spring / 99 Designs

1) Institute
SDS
2) Name
Crowd Spring / 99 Designs – The rise of “Spec Design” sites (Short for Speculative)
3) Abstract
Spec Design sites deliver affordable graphic design work and democratize the business by letting customers run a “design contest” to meet the client’s needs, where an open community of designers compete to create the best possible desi gn to answer the brief usually in as short as 24 hours. Customers post creative briefs directly to an open design community, which then competes to create a design that best fits the clients’ needs. A typical "assignment" will draw dozens of submissions. The winner receives a payment and the client receives a logo or website design at a fraction of what a professional agency might charge. Design contests are traditional forms of spec work but in this case the evolution isn’t the spec work itself, but the always growing exploitation of the model in an online setting. This type of work is widely considered immoral by the graphic design community, as it requires the designer to commit time and resources to a project with the chance of getting nothing in return and automatisation of the graphic work production to such extend.

4a) Dimensions	**X**	**Driver**
Social	X	The emergence of graphic software (even for free) has to a new category of graphic designers: amateurs or non-professionals whose works can exist on the market. This phenomenon has deeply modified to graphic business and more precisely the relation to clients.
Technological	X	The role of internet as a catalyst to create a huge shift in the marketplace.
Economic / Industrial	X	(see social driver)
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**

Social	X	_The subject is widely criticized in the graphic design community. Alarmed by the popularity of the spec model, a group of designers formed a protest group called No!Spec to persuade their colleagues and clients to just say no to design contests. _It doesn't enable a long lasting client-designer relationship. Triggers continuous competition.
Technological		
Economic / Industrial	X	It requires the designer to commit time and resources to a project with the chance of getting nothing.
Environmental		
Political		
Design / Art	X	_Criticised for devaluating the perception of graphic design. _Automatisation of the design process and outputs.
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Deeply modify the way graphic designers find their clients and their business relations.
Potential "innovation wild card"		
Uncertain		
6) Sector specifics / cultural specifics		
This weak signal is related to graphic design and print.		
7) Source	**X**	**Please specify**
Internet	X	http://99designs.com/?tp1=b http://www.crowdspring.com/how-it-works The protest group: http://www.no-spec.com/
Daily Newspaper		
Magazine	X	Wired / Epicenter http://www.wired.com/epicenter/2009/03/is-crowdsourcin/comment-page-2/
Scientific Literature		
Studies		

Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

The profile of the designer doesn't count so it could be a professional graphic designer as much as anybody else with access to the software tools.

9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
		99designs says it has paid out over $4 million to its community of 30,000 artists, and crowdSpring expects to be profitable by next year.

11) Picture


crowdSPRING
How it works
Browse
Community
Help
Post a project
Need a logo, business card, website or other custom graphic design? 42,000+ designers are ready to help.
Thousands of satisfied small business customers from around the world.
Featured projects
MARKETING
TiVo Wants You to Spice Up Their Logo.
99designs. For whatever you need
Launch a project...
how it works
step 1: create your design brief
step 2: set your budget
step 3: work with the designers
step 4: choose your favorite design

4.4.2 Future Concept Lab

1) Institute		
SDS		
2) Name		
Future Concept Lab		
3) Abstract		
Future Concept Lab is an international consultancy focused on global trends in consumption and distribution. The innovation process consists here in activating their original international network of 'cool hunters' worldwide to quickly collect stimulation material on a particular topic. For example, the Happiness Program was a research program that provided a cross-cultural insight on teenagers and elderly's day-to-day experience of Happiness. It focuses on the material forms, images and places that young adults (14-22) and mature adults (55-70) recognise as meaningful and joyful in their day-to-day experience. Respondents have been asked to fill in a photo diary for a period of seven days and taking photos to the 'objects of their Happiness', people, places, products, etc. Diaries have been followed by in-depth interviews with the respondents on the basis of ad-hoc designed discussion guides. The result was an interactive tool of analysis called "Matrix of Happiness". This matrix allows a two-way insight giving easy access both to the 'raw material', formed by people's direct quotes and visuals, as well as to a filtered analysis of the data divided per area of interest. The matrix is used as stimulation tool to orient projects taking into account in a deeper and more extended way users benefits and satisfaction.		
4a) Dimensions	**X**	**Driver**
Social	x	Global markets have lead to cross-cultural observations for finding new trends…
Technological		
Economic / Industrial	x	...this means that potential users are now selelected in both advanced and emerging markets.
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		

Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	x	Not just quantitative information provided by users but shaped and creative source of information (i.e., photo diary in the Happiness Program)
Potential “innovation wild card”		
Uncertain	x	It looks more like a stimulation of ideas than a stimulation process of innovation in itself

6) Sector specifics / cultural specifics
services in relation to everyday living

7) Source	**X**	**Please specify**
Internet	x	www.futureconceptlab.com
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

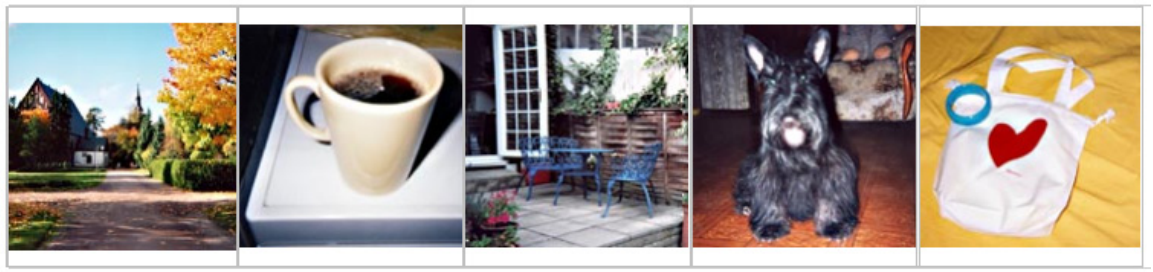
8) Informal Remarks
Users selected in both advanced and emerging markets.

9) Contacts

Name	**Contact Details**	**Topic of Interest**

10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated Diffusion**
		The example of the Happiness Program and other similar works from Future Concept Lab based on their network of 'cool hunters' represents an approach common in trends watching agencies worldwide.

11) Picture



The Happiness Program: mood diary (2005)

4.4.3 A Soured Economy Prompted a Boom in Crowdsourcing

1) Institute		
Z_punkt		
2) Name		
A Soured Economy Promted a Boom in Crowdsourcing		
3) Abstract		
The current global economic crisis has a pervasive impact on national economies and labour markets, resulting in increasing unemployment. Due to the fact that many unemployed workers do no longer have the chance to find a permanent position in their sector of expertise, crowdsourcing marketplaces such as InnoCentive, TopCoder, uTest, and CrowdSpring are booming.		
4a) Dimensions	**X**	**Driver**
Social	X	The participation in crowdsourcing activities, particularly conducted in virtual environments as online communities, is associated with social rewards as friendship, social feedback and peer recognition.
Technological	X	Web 2.0. technology enables collective knowledge creation activities, the collaborative production of innovative ideas and solutions and also the “crowdsourcing” of simple as well as complex tasks.
Economic / Industrial	X	Prevailing problems in the international labour markets might give rise to new forms of working models and incentives for unemployed persons to increasingly engage in crowdsourcing projects in order to perceive monetary benefits.
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		

Economic / Industrial	X	Although participation in crowdsourcing projects can also be driven by intrinsic motivation, especially jobless workers want to gain monetary in addition to social reward. Thus, the extent of the monetary compensation affects the willingness to participate in crowdsourcing activities. If benefits become too low, participation levels will probably drop.
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Crowdsourcing platforms might become an emerging form to stay in contact with the working world, sharpen own skills and get recognised by others. This will affect the working world in general and also innovative industries: More open innovation projects and changing academic career patterns.
Potential “innovation wild card”		
Uncertain	X	Does crowdsourcing represent the beginning of the end of creative organizations? Or does it herald the beginning of something bigger and transformational for those agencies—and for business in general?
6) Sector specifics / cultural specifics		
This Weak Signal is not specific to a particular sector or culture.		
7) Source	**X**	**Please specify**
Internet		
Daily Newspaper		
Magazine	X	BusinessWeek Online, URL: http://www.businessweek.com/innovate/content/jun2009/id20090615_946326.htm
Scientific Literature		
Studies		
Conferences / Lectures		
TV		

Personal Communication		
Other		

8) Informal Remarks

9) Contacts

Name	Contact Details	Topic of Interest
CrowdSourcing Platform Provider	http://www.innocentive.com/ http://www.topcoder.com/ http://www.utest.com/ http://www.crowdspring.com	

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture

4.4.4 CoWorking Houses as Creative Hubs

1) Institute		
Z_punkt		
2) Name		
CoWorking Houses as Creative Hubs		
3) Abstract		
More and more of the so-called knowledge workers from the creative class join so called CoWorking houses. CoWorking houses offer an easy, flexible and budget workspace (LAN and coffee flat rate included). They combine workspace (productive and functional) with a creativity hub (social, energetic, creative). By this, people from a broad spectrum of disciplines meet and can collaborate with each other. Many CoWorking houses explicitly promote great openness - people shall share knowledge and ideas. People, who in times of the “old” corporate offices probably would have never met can now come together and innovate.		
4a) Dimensions	**X**	**Driver**
Social	X	Especially freelancers try to escape social isolation in their homes or single offices and long for exchange with other peoples.
Technological	X	Modern IT provides the enabling technologies for the further flexibilisation (in time and location) of work.
Economic / Industrial	X	Work becomes more flexible. Value creation increasingly takes place in temporary projects, independently, at different locations, at different moments in time and without fixed salary positions, leading to an increasing number of freelancers professionals.
Environmental		
Political	X	Politicians facilitate the emergence of the creative class, as they hope to increase economic welfare
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		

Environmental		
Political	X	“Old-fashioned” employment laws may hinder people from joining CoWorking Houses or inventing in this environment
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Mostly urban locations prefered by the creative class become increasingly important as innovation networking takes place there. Cities compete over the “innovation nomades” (or also creative project workers”) because companies see their presence as an important location advantace and base their headquarters accordingly.
Potential “innovation wild card”	X	Inventing does no longer take place in enterprises or laboratories
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet	X	http://www.coworking-news.de
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		
8) Informal Remarks		
Trend is coming from the US to Europe. First CoWorking Houses founded in Germany about one year ago. Impression of a very active and networked community		

9) Contacts

Name	Contact Details	Topic of Interest

Andreas Greisle, Florian Rustler, Felix Schürholz	http://www.coworking-news.de/die-autoren-der-coworking-news/	Authors of Co Working News
Several CoWorking Houses in Germany	http://www.coworking-news.de/coworking-verzeichnis/	

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture

betahaus | raum | team | preise | faq | dates | blog |

coworking berlin

The way we work has changed. Value is created differently than centuries ago. It takes place in projects, at different locations, at different moments in time, independently, and without fixed salary positions. The all new way of working, living, innovating and developing things needs new hubs and places to work at and it won't happen in corporate offices! All that's required is an open, digitally networked collaborative workplace, which is flexible and serves as a platform for networking, innovation and production.

betahaus is a coworking space in berlin. It's a platform, which meets the demands of knowledge-based and creativity-based workers, and expands their opportunities in the process. In a mix of relaxed coffeehouse atmosphere and concentrated working environment we've created a space between work and private sphere, where collaborative innovation and creativity are promoted.

We're currently testing the water over two floors in the 1000m² betahaus in Kreuzberg. Come and have a look! Schedule a meeting with kontakt(at)betahaus.de.

Currently testing out the betahaus:

4.4.5 US-$ million Reward in Open Innovation Competition

1) Institute		
z_Punkt		
2) Name		
US-$ million Reward in Open Innovation Competition		
3) Abstract		
The American online video rental shop Netflix has offered 1,000,000 US-dollar for the team who is able to improve the movie recommendations made by Netflix's internal software, Cinematch, by at least 10 percent. It took 3 years until a team surpassed the 10 percent hurdle. The winner team is an international cooperation of some of the top teams of the competition.		
4a) Dimensions	**X**	**Driver**
Social		
Technological		
Economic / Industrial		
Environmental	x	Companies increasingly realise the benefits of open innovation models and reward them accordingly. Higher prizes lure more talented and skilled people and thereby increase the chances of success.
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**

Change in current innovation patterns		Such outstanding highly rewarded open innovation models do not aim at collecting as much as ideas as possible from e.g. customers, but rather on attracting highly skilled professional teams that combine their knowledge to solve a daunting challenge. This could change current academic / professional career patterns: “Increasing liberalisation of academic field”
Potential “innovation wild card”		
Uncertain		

6) Sector specifics / cultural specifics
Discussed in the US media, but not in Europe so far

7) Source	**X**	**Please specify**
Internet		In the blog of the innovation platform Atizo.com → link to an article on nytimes.com
Daily Newspaper		Nytimes.com
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

9) Contacts

Name	**Contact Details**	**Topic of Interest**
Netfix		Company that hosted the contest
Thomas W. Malone		director of the Center for Collective Intelligence at the M.I.T.
Robert Bell and Chris Volinsky		Members of the winning team (both from AT&T)

10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated Diffusion**
http://greeninc.blogs.nytimes.com/2009/11/05/using-prizes-to-drive-energy-innovation/?scp=1&sq=Innovation%20blog&st=cse	Article on prizes are used to drive Innovation in the energy sector.	In the energy sector the rewards are even higher

11) Picture

4.4.6 Threadless / Typetees

1) Institute		
SDS		
2) Name		
Threadless/Typetees		
3) Abstract		
Threadless and Typetees are two connected websites where users can submit their designs (Threadless) and slogans (Typetees) to be printed on t-shirts and other formats. These submissions are then voted by the users themselves with a "I'd buy it" or "it's stupid" concept (with a 0-5 voting system in case of Threadless), therefore directly suggesting profitable designs to those who'll decide to print them. By this decision comes a reasonable amount of money for the creator: 2500$ for a Threadless design, 500$ for a slogan at Typetees. The innovation process here resides in actively engaging the same user that may buy the final product in a collective selection process of the range of goods that will be produced.		
4a) Dimensions	**X**	**Driver**
Social	X	Growing demand of mechanism to express directly personal creativity in the population.
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		

5a) Indication	X	Please specify
Change in current innovation patterns	X	De-professionalisation of the creative and marketing process
Potential “innovation wild card”		
Uncertain		

6) Sector specifics / cultural specifics
It is specific to any sector dealing with vast differentiation of products.

7) Source	X	Please specify
Internet	X	http://www.threadless.com/ http://typetees.threadless.com/
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks
For the company point of view the process is much more profitable since a much larger amount of creative proposal are collected for a very low cost.

9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
	The process seems to work and last but no clear data were available on the effective number of submitted designs and on the final commercial	

	success	

11) Picture

Tectonic Wormhole *by* Joe Van Wetering

Thumb War *by* tenso GRAPHICS

Alien Autopsy *by* Chris Rowson

Art No War *by* Noah Benjamin

F5 can be so refreshing *by* Ryan Pumroy

The best kept secret is the one you don't know about *by* Sheik Robinson

Salsacrifice! *by* Wenceslao Almazan

Krayis *by* Loy Valera

4.4.7 Coroflot

1) Institute		
SDS		
2) Name		
Coroflot		
3) Abstract		
Coroflot.com is a career and community site for creative professionals. The innovation process consists in hosting individual creative portfolios and offering a large display of projects and ideas representing a market place of innovations and innovators. The community who visits the site daily represents a cross-section of the global design industry, working designers, design managers, internal and external hiring professionals, business managers of design firms, marketing and product management professionals, students, and educators. The market targeted by this site is huge, regarding to the increasing demand of this kind of services. Built with the primary objective of bringing together young designers with companies seeking creativity Coroflot and similar sites end up building a huge, completely transparent database with the works of the youngest creative minds as all the profiles and portfolios are public.		
4a) Dimensions	**X**	**Driver**
Social	X	The problem of gaining visibility for young designers having their paper portfolios as the only way to communicate with potential clients lead to the creation of new (web) tools (instead of the classical paper portfolio).
Technological		
Economic / Industrial	X	The increasing difficulty – due to the increasing number of young designers – to find new talents.
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		

Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	More and more companies look into these databases not only to find new creative talents but also to foster their innovation, get inspiration and benchmark creative dynamic in their sectors.
Potential “innovation wild card”		
Uncertain		

6) Sector specifics / cultural specifics
More related to the so-called creative class activities.

7) Source	**X**	**Please specify**
Internet	X	http://www.coroflot.com/
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks
With Coroflot, looking for a job also consists in contributing in an innovation process of spreading ideas. By looking at so much portofolios, companies have the opportunity to identify new trends amongst young professionals works, keep track of a specific market and draw statistics.

9) Contacts

Name	**Contact Details**	**Topic of Interest**

10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated Diffusion**
		The diffusion and use of this kind of website is huge but it is difficult to estimate the secondary use made to look for inspiration and trends.

4.5 Closing Innovation

4.5.1 Product piracy and product imitation cases are increasing

1) Institute		
Z_punkt		
2) Name		
Product Piracy and Product Imitation Cases are Increasing		
3) Abstract		
The growing number of cases of product piracy and product imitation reveal an increased threat to business interests and the customers´ security due to deficient products and the utilization of materials with negative health effects. In particular, technological and innovative industries are highly affected by product imitations.		
4a) Dimensions	**X**	**Driver**
Social	X	Some people are reluctant to spending money on high-priced goods, especially regarding innovative electronic products, due to low income or avarice. These drivers might foster the ongoing lucrativeness of developing and producing imitations.
Technological		
Economic / Industrial	X	A recent study proves that products, which are being manufactured by SMEs are more likely to be affected by product piracy than the ones produced by large-scale enterprises. This is referring to the low number of applied patents of small enterprises (because of cost concerns and information deficits) in countries where a high amount of imitations appear. Thus, the number of cases of product piracy might increase due to neglected applications.
Environmental		
Political	X	An important driver of the increasing product piracy might be the lack of effective prosecutions in the countries where the imitations mainly are produced, in particular China or other Asian countries.
Design / Art		
4a) Dimensions	**X**	**Obstacle**

Social		
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	This weak signal hints to a return to even stricter models of closed innovation processes. The increasing anxiety towards product piracy could induce companies to decrease their willingness to integrate external sources into different stages of new product development.
Potential “innovation wild card”	X	Since not only companies but also nations are competing over the lead in innovation, a wild card could be, that protectionism increases strongly, leading to state-controlled innovation and strict laws on corporate information politics.
Uncertain		
6) Sector specifics / cultural specifics		
This Weak Signal is not specific to particular sectors.		
7) Source	**X**	**Please specify**
Internet	X	RBB-Online: http://www.rbb-online.de/was/archiv/was__vom_07_09_2009/produktpiraten.html
Daily Newspaper		
Magazine		
Scientific Literature		
Studies	X	Study of the DIHK and APM concerning product piracy: http://www.markenpiraterie-apm.de/files/standard/China%20Studie.pdf
Conferences / Lectures		
TV		
Personal Communication		

Other		

8) Informal Remarks

9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture

4.5.2 From Closed Innovation to Top-Secret Innovation?

1) Institute		
Z_punkt		
2) Name		
From Closed Innovation to Top-Secret Innovation?		
3) Abstract		
In Summer 2009, an employee of one of Apple's manufacturer committed suicide after loosing a prototype of a next generation iPhone, There are rumours that he was maltreated and his house was searched illegally. Apple, commonly seen as one of the most innovative brands, treats its upcoming products like a state secret. Apple thereby contributes to the hype created by its uncountable communities of followers, e.g. websites, which offer live-tickers during Apple Keynotes (conferences where Apple launches new products) have to shut down their normal sites and use all available server-power to withstand the run of followers.		
4a) Dimensions	**X**	**Driver**
Social	X	An increasing number of people partly define their identity by joining product/brand communities. →Post Modern Lifestyle.
Technological		
Economic / Industrial	X	More and more companies use storytelling as an ongoing tool to create sustainable hype and curiosity around their brands.
Environmental		
Political		
Design / Art	X	More and more companies understand, that design and/or the association with the arts load up a brand with a desirable flair, which fosters a brand-hype. → Design Innovation gains acceptance.
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		
Environmental		

Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Apple's success could be a weak signal for a new emergence of not only closed but top-secret innovation strategies. Using the hype around a brand, companies are creating consumer-religions. The suicide is an extreme example of how very serious this can become. This weak signal could indicate an increasing avoidance of open or user-integrated innovation in the consumer good industries and instead a concentration on creating myths.
Potential "innovation wild card"	X	Mafia-like or sect-like cults around innovation secrets establish themselves?
Uncertain	X	With the app store apple also follows an open innovation strategy. They combine both ways.
6) Sector specifics / cultural specifics		
Only useful in the B2C business.		
7) Source	**X**	**Please specify**
Internet		http://news.bbc.co.uk/2/hi/8162325.stm http://www.macnotes.de/2009/01/05/mwsf-alles-infos-zum-keynote-ticker-zur-macworld-2009/
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		
8) Informal Remarks		

9) Contacts		
Name	**Contact Details**	**Topic of Interest**

10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated Diffusion**
http://www.wiwo.de/unternehmen-maerkte/wie-die-krise-die-autoindustrie-veraendert-388961/	The BMW “i” – Project also falls into the category of top secret innovation strategy. During this project, employees are allowed to break with all traditional or logical strategies. The aim is to come up with a totally new concept, which is able to defy the financial crises.	

11) Picture

4.5.3 American Apparel (No sweatshop large scale clothing manufacturing)

1) Institute
SDS
2) Name
American Apparel (no sweatshop large scale clothing manufacturing)
3) Abstract
American Apparel is the largest sweatshop-free clothing manufacturer in the United States. The innovation process consists in the fact that American Apparel has decided not to outsource its activities. Vertically integrated manufacturer, wholesaler and retailer American Apparel produces all of its garments domestically in Los Angeles and also performs its own design, advertising, and marketing internally. By integrating all aspects of production and avoiding outsourcing, the company achieves a fast turn-around time from design concept to finished product. As such speed that a garment could be designed on Monday and be sold in London the following week. Small, frequent shipments between stores to balance inventory based on locale-driven demand as opposed to huge containerized shipments of most retailers The company pays the industry's highest factory wages in the USA and provides health care benefits for all its line workers. The company emphasizes this socially responsible production process in its marketing, and that payed off with the brand's rapidly formed hip, urban consumer base. American Apparel designs, creates and prints its own advertisements. Many of the models in American Apparel's advertising are recruited by founder and CEO Charney and his colleagues on the street, or company stores. The production system of American Apparel centralizes most of its employees in a single location. By not outsourcing, Charney believes that he knows his workers better and that it ties them directly to the brand. A banner on top of the downtown factory states "American Apparel is an Industrial Revolution."

4a) Dimensions	**X**	**Driver**
Social	X	The company creates value by focusing on socially responsible production process. And creating very favourable working conditions.
Technological		
Economic / Industrial	X	By integrating all aspects of production and avoiding outsourcing, the company achieves a fast turn-around time from design concept to finished product. The company uses "team manufacturing" which

		pools the strongest workers towards priority orders. Each team functions autonomously and determines its own daily production schedule, giving them control over their own hourly wages. American Apparel pays factory workers an average of over $12 dollars an hour. Garment workers for similar American companies in China earn approximately 40 cents per hour. It claims to have the 'highest earning apparel workers in the world'.
Environmental	X	The company promotes environmentally friendly practices and is known for its innovations in sustainability due to vertical integration.
Political	X	In addition to participating in a variety of immigration protests, the company launched an advertising and advocacy campaign called "Legalize LA". The company also maintains a Legalize LA portion of their website that features news articles relating to immigration reform, the brand and information on the history of the issue.
Design / Art	X	Their print campaigns are widely considered to be some of the best in the industry and has been lauded for honesty and lack of airbrushing. American Apparel images often display subjects with their blemishes, imperfections and asymmetrical features highlighted and attached with brief, personal descriptions. Many of the models in American Apparel's sexual advertising are recruited by Charney and his colleagues on the street, or company stores; others are selected after sending their photos directly to the company website.
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns		

Potential “innovation wild card”	X	Completely counter current business model that is showing its success.
Uncertain		

6) Sector specifics / cultural specifics
Apparel and clothes manufacturing and design.

7) Source	**X**	**Please specify**
Internet	X	Many references such as http://en.wikipedia.org/wiki/American_Apparel http://store.americanapparel.eu/ http://www.businessweek.com/magazine/content/05_26/b3939108_mz017.htm
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

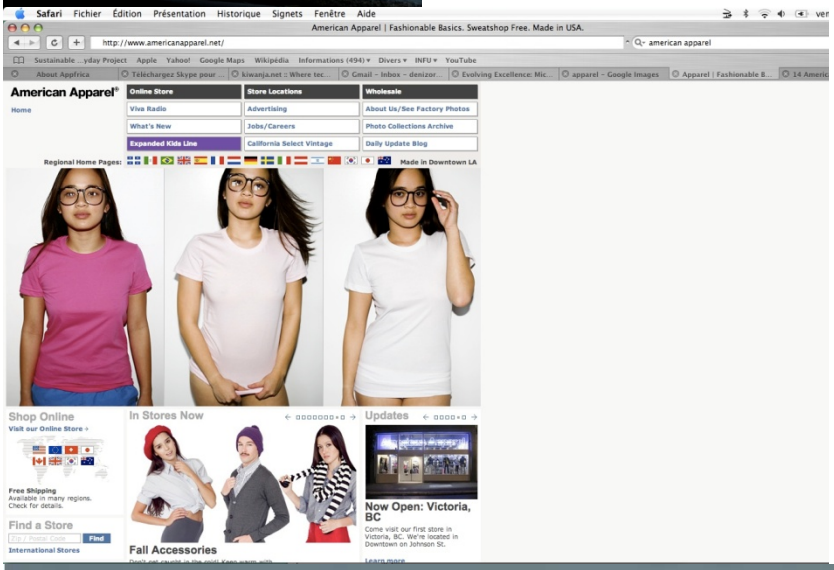
9) Contacts

Name	**Contact Details**	**Topic of Interest**

10) Estimated Diffusion

Source	**General Comment**	**Comment on estimated Diffusion**

11) Picture



for more pictures about American Apparel headquarters in Los Angeles:
http://www.flickr.com/photos/alossix/sets/72157605676182375/

4.6 Legal Frameworks

4.6.1 Creative Commons / Service Commons

1) Institute
SDS
2) Name
Creative Commons / Science Commons
3) Abstract
Creative commons is a non profit corporation that offers creative licensing that enables creators to let their creations to be shared, reused and remixed by other people in parts or as a whole in order to generate other innovations still consistent with the rules of copyright. The creative process is based on the availability, searchability and easy access of innovations so that anybody can reuse, combine and generate other innovations. The aim is to increase the amount of creativity (cultural, educational, and scientific content) in “the commons”, the body of work that is available to the public for free and legal sharing, use, repurposing, and remixing. The evolution compared with previous diffusion of knowledge (i.e. scientific publication, patent database, etc) is mainly in the accessibility to innovation and to the network of innovators and in the approach to innovation not as property but as a common to which everybody holds the right to. In case of Science Commons the same kind of consideration applies to scientific knowledge where the aims to enable tools for faster, more efficient web-enabled scientific research working around legal and Policy barriers and develop technology to make research, data and materials easier to find and use and creation of a network. Again the idea is based on scientific knowledge as a common for all people.

4a) Dimensions	**X**	**Driver**
Social		
Technological		
Economic / Industrial	X	Growing need for new ways of protecting intellectual property without restricting knowledge flow. New emergence of business models which shift from protecting/hiding creative knowledge to giving it open source: more is to be gained in recombination by other parties than in keeping ownership

Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial	X	Not all knowledge is in creative common and it is not said that the open source principle is applicable in any fields of research.
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns		
Potential “innovation wild card”		
Uncertain	X	Creative commons represents a radical shift in creative knowledge management and therefore a potential wild card in innovation process but limits of applicability to certain sectors and specific economical models may reduce the potential change it represents.
6) Sector specifics / cultural specifics		
Specifically developed in the IT/software development sector		
7) Source	**X**	**Please specify**
Internet	X	http://creativecommons.org/ Case studies: http://wiki.creativecommons.org/Category:Casestudy?/
Daily Newspaper		
Magazine		
Scientific Literature		

Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
		Increased diffusion from the non formal/artistic sectors to hard science sectors

11) Picture

4.6.2 Petitions for a New European Patent System

1) Institute
Z_punkt
2) Name
Petitions for a New European Patent System
3) Abstract
Support is growing for a more open patent system which limits patent applicability / duration and emphasises collaboration and sharing ("From Confrontation to Negotiation"). Some of the fundamental demands include: • Independent trust builders, who educate and encourage dialogue between industry, government, researchers and NGOs. • Cross-cutting thinking: IP has too long been looked at in isolation from other elements in the innovation system, leading to a poor understanding of IP's role in innovation. Researchers need to work across disciplines and understand how IP actually works in context. • Data and metrics: You get what you measure. Right now, the wrong things about IP are measured, particularly at public institutions and universities. Unless it becomes clear what one wants from innovation and how to measure it, we will not break out of the vicious cycle of Old IP.

4a) Dimensions	**X**	**Driver**
Social	X	IPR have shown to be counterproductive to the world's poor who await advances in health and agriculture long available to the global elite.
Technological	X	The open patent movement argues that innovation levels are declining (e.g. in health fields) due to increasing stakes in intellectual property. Technologically fast-moving industries, such as the IT and the Life Science sector are hindered by patents because knowledge and ideas can not run freely, but are blocked by companies seeking a monopoly position.
Economic / Industrial		
Environmental		
Political	X	Even though the EU software patent directive was rejected in 2005, about 30.000 software patents were granted without a sufficient legal base. A growing movement, in particular consisting of small- and medium-sized companies is protesting against this. They argue that esp. software patents only serve the "big players".
Design / Art		

4a) Dimensions	X	Obstacle
Social		
Technological		
Economic / Industrial		
Environmental		
Political	X	Strong political and economic actors profit from the current IPRs and will most likely fight and argue against a liberalisation of current regulations.
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	With a redesign of the patent system innovation and information exchange (socialisation of knowledge) could boost. This could be of benefit for the developing countries (particularly regarding to health and the creation of pharmaceutical innovations).
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
Biotechnology / Life Sciences & ICT		
7) Source	**X**	**Please specify**
Internet	X	http://www.ethipat.org/ http://www.ffii.org/ http://www.theinnovationpartnership.org/data/ieg/documents/report/TIP_Report_E.pdf
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		

Other		

8) Informal Remarks

This WS is originally from the Iknow-Project.

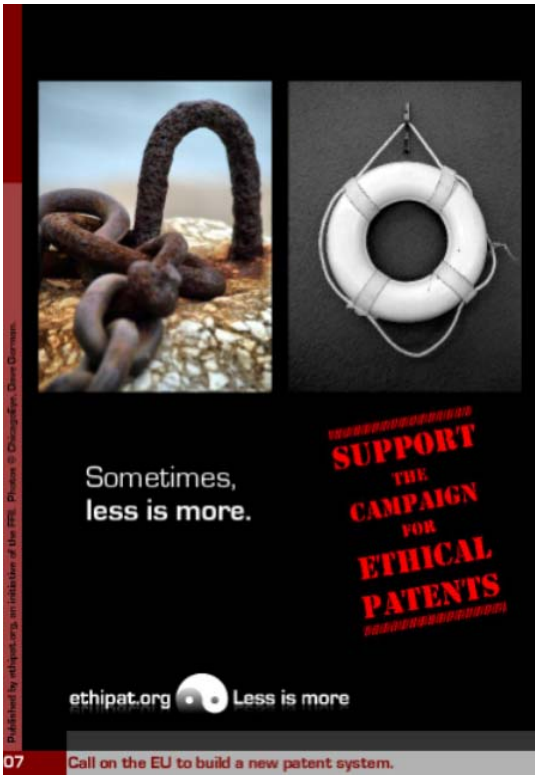
9) Contacts

Name	Contact Details	Topic of Interest
Contributers of Ethipat: Matthieu Pesesse, Benjamin Henrion, Alexandra Combes, Andre Rebentisch, Brian Kahin, Hartmut Pilch, Frans Hintjens, Jonas Maebe, Reinier Bakels, Johannes Sommer	http://www.ethipat.org/contact	Ethical patent system

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture



4.7 Innovation Policy

4.7.1 A Holisitc Approach: Demand and Supply-Driven Innovation Policy

1) Institute
Z_punkt
2) Name
A Holistic Approach: Demand and Supply-Driven Innovation Policy
3) Abstract
So far, traditional innovation policy mostly focuses on the development of innovation, the supply side of innovation, so to speak. Researchers from the German Institute of Global and Area Studies identified four main trends concerning global trends in innovation policy: 1) public funded technology programs, 2) innovation intermediaries (bringing together research and industry), 3) enabling producer-user relationships and 4) spending for R&D as share of the GDP. Recently, in Europe, a political discussion about a stronger emphasis on the demand side of innovation has started. The insight that both demand and supply side factors influence the way innovations emerge and diffuse on the markets becomes more common. Recent examples in China show that a focus on the supply side alone does not lead to the desired sustainable success, if other factors lack. Demand-driven innovation policy promotes innovativeness and diffusion of innovations by stimulating demand and by creating better conditions for the take-up of innovations. In contrast to supporting the R&D sector, it aims at the institutional design of the innovation system that is decisively responsible for a sustainable success of innovations. Discussed measures are (partly already implemented): financing and tax incentives, the public sector as lead customer (pioneering activities), public-private partnerships, public foresight and communication of innovation fields to the wider public to increase acceptance of new technologies. Demand-driven innovation policy especially drives innovations in the field of environmental technology, transportation and health. In Germany government incentives have created a large market for solar panels, and public funded pilot projects for electric cars are about to create kind of a test market with limited risks for the participating companies.

4a) Dimensions	**X**	**Driver**
Social		
Technological		

Economic / Industrial	X	According to the European Commission, banks lack the technological knowledge to approve loans for eco-innovation and other new fields. Alternative, state-driven funding and support is highly demanded.
Environmental	X	The climate change increases the pressure on everybody to find solutions, esp. in the named fields. Often the required solutions are too big for a single actor from the private sector to shoulder them. This frankly calls for governmental support.
Political	X	Private innovators often hesitate to invest in new technologies, as they cannot be sure their products will be demanded / needed. Here the state can help to boost demand, either by acting as buyer, or facilitating market conditions and acceptance in the public. Developing countries want to compensate missing private investments or systematically try to build domestic competences in certain areas i.e. by building massive research facilities (see China).
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial	X	Opposition by industries / research facilities which are not supported. If the governmental support is not sustainable, for example if the government remains the only customer, the innovation force of the private economy might be weakened in the long run and money is used inefficient.
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**

Change in current innovation patterns	X	A stronger focus on the demand side of innovation could lead to a change in the way resources are provided for the development of innovations – more money for public-private-partnerships foresight, large-scale projects, less for traditional basic research. Combing demand and supply side driven policy may increase the likelihood of successful innovations.
Potential “innovation wild card”		
Uncertain		

6) Sector specifics / cultural specifics

7) Source	**X**	**Please specify**
Internet	X	http://www.scribd.com/doc/20454781/Demand-and-user-driven-innovation-policy-framework
Daily Newspaper		
Magazine		
Scientific Literature		
Studies	X	http://www.giga-hamburg.de/dl/download.php?d=/content/publikationen/pdf/gf_global_0901.pdf
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

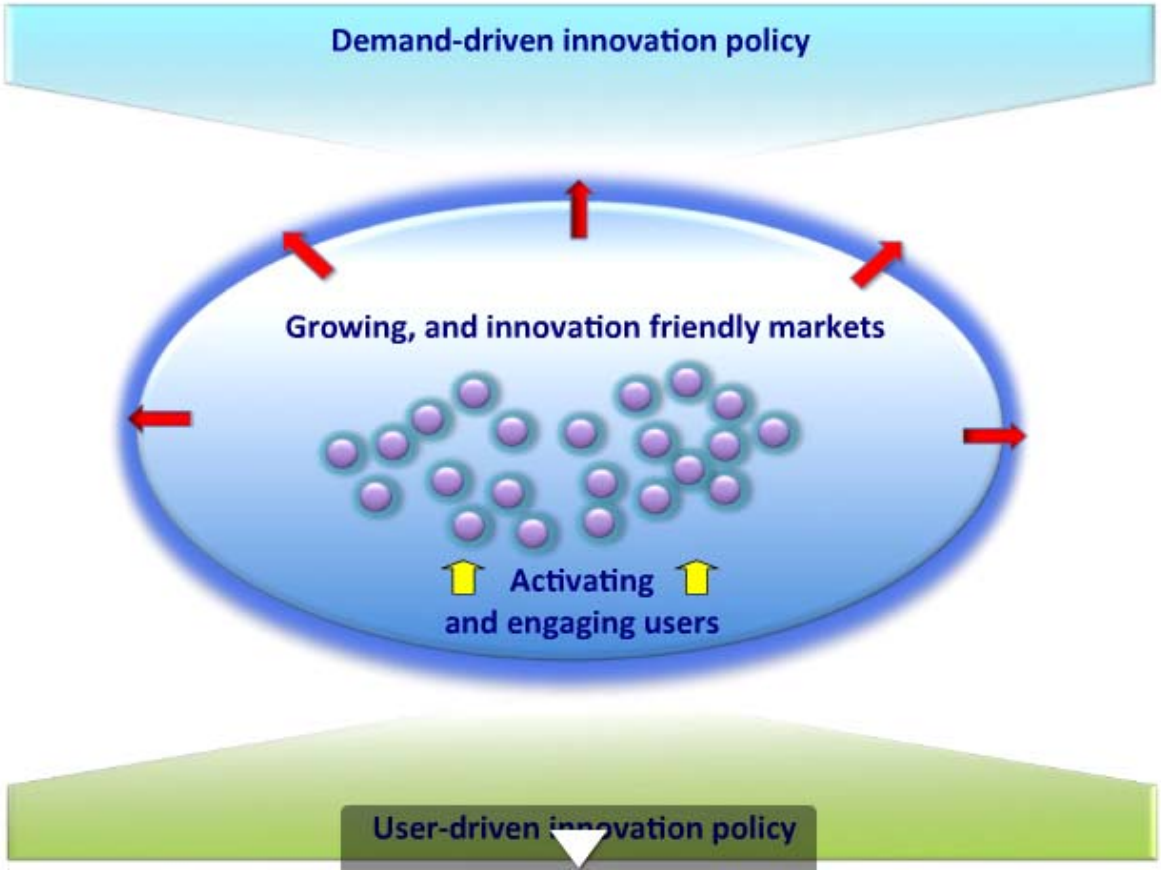
9) Contacts

Name	**Contact Details**	**Topic of Interest**
Finnish Ministry of Employment and the Economy, Innovation Department	Mailing address P.O. Box 32, FI-00023 GOVERNMENT, Finland Telephone switchboard +358 10 60 6000	Host of the EPISIS Project which dealt with demand and user driven innovation policy frameworks

	Fax +358 9 1606 2166 Official e-mail: kirjaamo (at) tem.fi	

10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated Diffusion**

11) Picture



4.7.2 Innovation by Governmental Supported Start-ups and Entrepreneurships – the Israeli Model

1) Institute
Z_punkt
2) Name
Innovation by Governmental Supported Start-ups and Entrepreneurships – the Israeli Model
3) Abstract
Public funding for entrepreneurial hubs and start-up financing is nothing new. Many of the world's most successful innovation hubs bear the stamp of governmental invention (i.e. Silicon Valley, Bangalore or Guangdong), but not all attempts were successful. The newest, most successful approach was taken by Israel. It shows how innovations pushed by governments and the promotion of entrepreneurships could look like in the future, also in many other countries. It also gives a clue on how to prevent the most common mistakes, e.g. to name areas of innovation, to overlook a lack of related supporting infrastructure (i.e. not enough skilled employees, no suppliers cluster,…). With the help of the Israeli government's venture-capital fund (founded in 1992 with $100m of public money) Israel attracted lots of foreign venture capital and foreign expertise. In contrast to most other concepts, it lets foreigners decide what to invest in, and then government provided the needed public money. As a result, foreign venture capital poured into the country, high-tech companies boomed, domestic venture capitalists learned from their foreign counterparts and many new jobs and ideas were created. In 2008, Israel attracted as much venture capital as France and Germany combined. The country has more start-ups per head than any other country (a total of 3,850, or one for every 1,844 Israelis), and more companies listed on the NASDAQ exchange, a hub for fledgling technology firms, than China and India combined.

4a) Dimensions	**X**	**Driver**
Social		
Technological		
Economic / Industrial	X	Increasing unemployment and global competition, the fact that in the last decades start-ups have accounted for almost all of the net job creation in most industrialized countries.
Environmental		

Political	X	Policymakers from Berlin, to Beijing and Washington are beginning to look for ways how to create tomorrow's jobs, rather than trying to save yesterday's after the financial crisis.
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social	X	Possible resentments in taking foreign money and accepting foreign influence, fear of becoming a financial football and in the long run lose jobs.
Technological		
Economic / Industrial		
Environmental		
Political	X	Scrap for the best concept between political parties – i.e. degree of foreign venture capital allowed in a certain country or attempts to decide which area shall be promoted and which not.
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	If more countries follow the Israeli model it could lead to a massive increase of international venture capital flowing around the world. Especially those countries so far not attracting much venture capital could profit from that. In the end, new and more innovations from different countries all over the world might be realized. The Israeli model is characterized by a great openness towards foreign capital and governments acting in the background as money provider. This could reduce the risk of governmental bad disinvestments, as the private secretor decides which ideas to promote. On the other side, as strict economical criteria would determine investment decisions, and as economists tend to reduce risks, innovative ideas, which are at first sight unprofitable, would not be supported. This would bring up the need for alternative financing concepts for social innovations and those bringing a general benefit for the environment or the society.
Potential "innovation wild card"		
Uncertain		

6) Sector specifics / cultural specifics
Example of Israeli innovation policy, could also work well in other countries

7) Source	X	Please specify
Internet	X	http://www.economist.com/businessfinance/displaystory.cfm?story_id=14743944
Daily Newspaper		
Magazine	X	The Economist
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks
http://www.start-ups.co.il/

9) Contacts

Name	Contact Details	Topic of Interest
http://www.iva.co.il/	e-mail: iva@iva.co.il	The IVA is the organization representing the Israeli venture capital community.

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture

4.8 Public Innovation

4.8.1 MIND LAB

1) Institute
SDS
2) Name
MIND LAB
3) Abstract
MIND LAB is a cross-ministerial innovation unit based in Copenhagen which involves citizens and businesses in developing new solutions for the public sector. MindLab's mission is to include both citizens and enterprises in developing innovative solutions for public administration. The innovation process consists in transforming the ministries mode of operation through more user involvement – developing and sharing user innovation knowledge in both public and private sectors – and through activities that cut across the public sector. MindLab operates across ministries, having been established as a cooperation between the Ministry of Employment, the Ministry of Taxation and the Ministry of Economic and Business Affairs. In other words, it covers areas that together affect the daily lives of nearly all of Denmark's citizens. Examples are MindLab's work on integration and equal opportunities, digital solutions, climate change and business regulation.

4a) Dimensions	X	Driver
Social	X	Growing awareness of participative democracy and bottom-up politics to involve public participation.
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art	X	Growing awareness of techniques and

		methodologies from user-centered approach in public sector.
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Innovation in public sector using user research knowledge gathered from private sector.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet	X	www.mind-lab.dk
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		
8) Informal Remarks		
Focused on public policies and institutions.		

Mindlap is original example of in-between top-down/bottom-up intiative to involve public participation.

Mindlab was set up in 2002 as the Ministry of Economic and Business Affairs' internal incubator for innovation/ giving visibility of three parents ministers as promoting new modes and methods of cooperation.

MindLab does cross-disciplinary work in areas involving design, anthropology, sociology and user research.

9) Contacts

Name	Contact Details	Topic of Interest
Christian Bason	MindLab Slotsholmsgade 12 1216 Copenhagen K Denmark Now blogging @ www.mindblog.dk + 45 33 923 144 + 45 20 673 628 chb@mind-lab.dk www.mind-lab.dk	Innovation Manager

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
		MindLab's core staff consists of six permanent employees plus several categories of seconded staff. About six projects have been set up the last two years Number of citizens included: n/a.

11) Picture

MIND LAB

1.
scoping & project design

2.
learning about the users

3.
analysis

4.
idea & concept development

5.
test of new concepts

6.
communication of results

7.
measuring
- the effects for the end users

4.8.2 Idea Contest "Save our Energy – The energy efficient city 2020"

1) Institute		
Z_punkt		
2) Name		
Idea Contest "Save our Energy – The energy efficient city 2020"		
3) Abstract		
The idea contest is funded by the German Federal Ministry of Education and Research and part of the project "OFFIES 2020+: Open Innovation Processes for the Energy Efficient City 2020+". Among others, it is organized by the universities of Munich and Erlangen-Nuremberg and the city of Munich. The purpose of the contest is to animate as many people as possible to generate and advance innovative concepts on energy efficiency in the fields of mobility, habitation and the combination of both fields. The ideas are commented by other participants and evaluated by experts. Each field´s best ideas are awarded with material prizes and further optimized in idea-workshops.		
4a) Dimensions	**X**	**Driver**
Social	X	Changes in behavioural patterns are very hard to trigger due to cultural structures and incorporated habits. The integration of citizens into the process of designing and developing new patterns can be an advantage for implementing new measures in communities.
Technological		
Economic / Industrial		
Environmental	X	The growing importance of environmental protection, especially the reduction of energy consumption and CO_2-emissions requires a change in everyday life habits as well as consumption patterns. Growing environmental awareness in post-industrial countries opens the way for the co-creation of social environmental innovation.
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		

Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	The interesting aspect of this project is the transfer of open innovation tools, which are more common in the business sector, into the public sector and areas of city planning and urban culture. This might be a sign that future communities will open up to the integration of citizens in political implementation processes. This could foster social innovations and behavioural changes and speed up their diffusion.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet	X	In the website of the Technology and Innovation Management Group of RWTH Aachen University → link to the website of the contest: http://www.save-our-energy.de/start.php?sid=rtwhaachen
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		
8) Informal Remarks		

9) Contacts

Name	Contact Details	Topic of Interest
German Federal Ministry of Education and Research		Sponsor of the project
Martin Delker, Bernhard Fink, Moritz Gomm, Helmut Holzapfel, Lorenz Hoser, Klaus Illigmann, Bianca Kaczor, Martin Lanzendorf, Anette Rudolph-Cleff, Sarah Salecker, Helmut Steyrer		Members of the Jury

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture

4.8.3 Open for Questions – Crowdsourcing at the White House

1) Institute		
Z_punkt		
2) Name		
Open for Questions – Crowdsourcing at the White House		
3) Abstract		
President Obama was looking for new ways to open up the White House to the American people, in order to get different perspectives from all over the country and enable people to participate. For this purpose, the White House implemented an interactive crowdsourcing platform called Open for questions. Every American was able to submit questions about the economy and what the government was doing to get the economy back on track. Other participants were able to vote on the questions and at the end of the project questions concerning the same issue were compiled and answered by president Obama.		
4a) Dimensions	**X**	**Driver**
Social	X	A growing share of people is characterised by a disenchanted attitude towards politics and a loss of confidence into the political system. A more open and transparent form of politics, such as these forms of interactive dialogues between actors of the political system and themselves might recapture the unenthusiastic citizens and fascinate them for political issues. In addition, more and more people are accustomed to interact via social applications and to jointly discuss on several topics of interest in blogs, wikis or online communities. All together these so called “digital natives” might increasingly demand for interactive solutions implemented by the governments, which enable them to participate in and influence several political decisions.
Technological	X	Through the internet, in particular the development of social applications and interactive elements of the Web 2.0, a fundamental change of communication and interaction patterns has taken place recently. These changes also affect the information policy of governments and politicians, as it took place in Obama´s election campaign, which was strongly based on virtual media support.
Economic / Industrial	X	The application of crowdsourcing platforms is already considered to be an efficient means to co-develop product innovations with customers in the

		private sector. Governments are increasingly adopting this method for the political sector in order to gain insight into citizens´ problems and needs and engage them in political decision making.
Environmental		
Political	X	As already mentioned above the closeness to citizens is a key factor to gain confidence in the political system and increase public support. The Open for Questions campaign (listening to the citizens´ opinions) might have served as a valuable example on how to foster citizens´ confidence and might lead to a further and permanent implementation of such online tools in the political area.
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social	X	The main problem might be citizens´ laziness to participate in these kinds of interactive campaigns. Although such activities are increasingly demanded, people often tend to refuse to participate even though the matters affect their lives. Thus, as occurred in the Open for Questions campaign, only a small share of people with the same radical opinion on one topic (in this case concerning the forces of drug reform) uses the platform as a lobbying instrument, leading to a sample, which does not represent the prevailing opinion in the public.
Technological	X	As remarked by Jeff Howe in his blog Crowdsourcing.com, the conception of the campaign involved some failures. The main one relates to the general conception of Idea Management as a process, which involves listening to the crowd as well as participation. In Obama´s the campaign was only used as a listening device, a virtual engagement of the government did not take place. Another failure was the lack of implementing a comment function, enabling participants to comment on questions posted by others.
Economic / Industrial		
Environmental		
Political		
Design / Art		

5a) Indication	X	Please specify
Change in current innovation patterns	X	This Weak Signal might indicate a change in current (social) innovation patterns, concerning how political decisions are being made by governments and how the public is being informed about these. With more interactive features, open platforms might strengthen democracy and simultaneously lead to an effective development of social innovations. The advantage is that individual and community problems are expressed to the government directly by the affected citizens. Additionally these citizens can be engaged to participate in the process of developing solutions to solve these problems.
Potential “innovation wild card”		
Uncertain		

6) Sector specifics / cultural specifics

7) Source	X	Please specify
Internet	X	In Jeff Howe´s blog on crowdsourcing, URL: http://www.crowdsourcing.com/
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

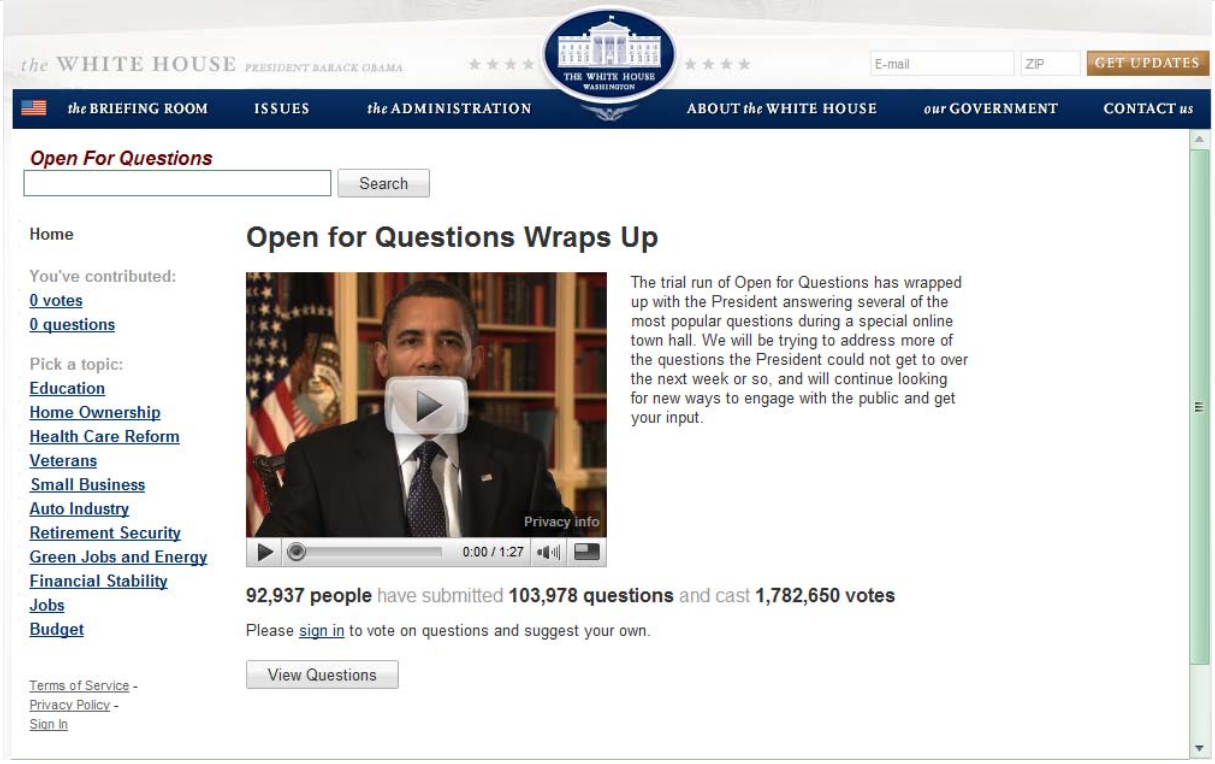
9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture



4.9 Social Innovation

4.9.1 Fully Sponsored Innovation Camp for Young People

1) Institute
Z_punkt
2) Name
Fully Sponsored Innovation Camp for Young People
3) Abstract
Palomor5 is an (currently running) innovation camp looking for creative young people to develop ideas for new working environments that fit the needs and skills of the digital generation. 30 young and creative minds were invited to stay in Berlin (location size: 2000sqm). During 6 weeks, completely financed by Deutsche Telekom, participants have the opportunity to bring their thoughts and ideas to life. Participants were selected to represent a mix of nationalities, genders, and professions with a broad variety of skills and interests. At the end, ideas will be presented to a selected public during a summit: people from business, politics and media that can take on their solutions and introduce them into everyday working life. Palomar5 was established as a non-profit initiative seeking innovation outside of corporate structures. The founders of Palomar5 feel that “innovation” itself is in need of reformation.

4a) Dimensions	**X**	**Driver**
Social	X	Especially younger people from the digital generation long for the opportunity to invent new rules and change existing patterns. At the same time companies are more and more interested in new ideas from their customers or future customers. Palomar5 is based on a concept that brings together the two different motivations and aims at offering support and space for questioning and reforming prevailing working and thinking paradigms, without any economic pressure.
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		

4a) Dimensions	X	Obstacle
Social	X	Only a handful of creative minds have the opportunity to spend 6 weeks in such a camp.
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Still innovations are often exclusively developed in corporate surroundings. Before signing an employment contract younger people have no access to these corporate worlds and thus do not get the chance to bring in their ideas. This holds especially true for non-consumer good areas, such as the working world, medical or social services. Innovation camps might be a good way to include the knowledge of younger people.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
This particular innovation camp is used to find innovations in the area of working. An adoption of concepts to other questions / sectors is easily imaginable		
7) Source	**X**	**Please specify**
Internet	X	http://palomar5.org/
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		

Other		

8) Informal Remarks

9) Contacts

Name	Contact Details	Topic of Interest
	http://palomar5.org/team/	Orga-Team

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture

4.9.2 Tata Jagritiyata

1) Institute
SDS
2) Name
Tata Jagritiyara
3) Abstract
“Tata Jagriti Yatra: empowering young awakening entrepreneurship” (sponsored by TATA) is an annual train journey that takes hundreds of India's highly motivated youth (with some participation of international students) between the ages of 20-25 and experienced professionals with age above 25, on a eighteen day national odyssey, introducing them to “unsung heroes of India”. The aim is to awaken the spirit of entrepreneurship - both social and economic - within India's youth by exposing them to individuals and institutions that are developing unique solutions to India's challenges. The originality of the innovation process is in the form of a collective journey around India to stimulate ideas and entrepreneurship. The main idea behind this initiative, especially in this period of increasing presence of Indian economy on the international context, is to stimulate (social) innovation amongst youth Indians to lead and develop businesses both nationally and within their communities. The vision of Tata Jagriti Yatra is to inspire young Indians living in the middle of the Indian demographic diamond (Rs 40-Rs 120 per day) to lead development by taking to enterprise. By doing so, they can turn from being job seekers to job creators

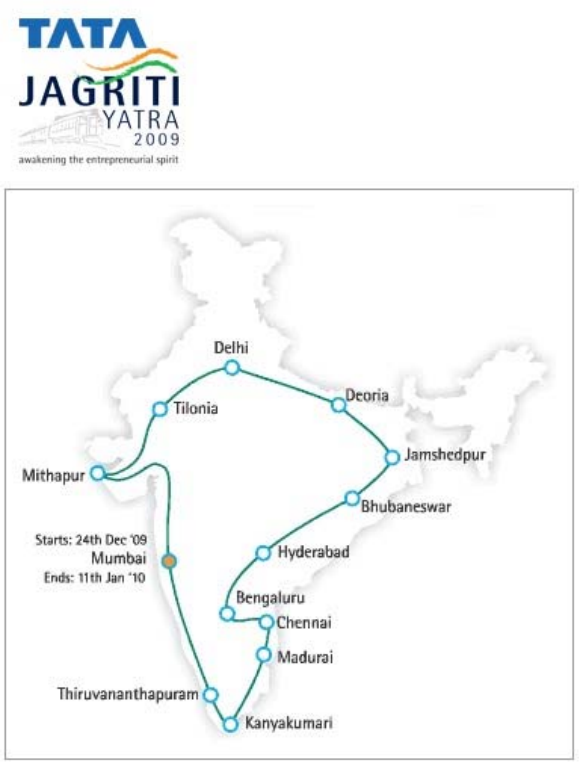
4a) Dimensions	**X**	**Driver**
Social	X	Huge amounts of people with social problems in India: the project's idea is to have young entrepreneurs working on it/ stimulate young and highly instructed talents to work on a local level./ promoting local examples of social innovation.
Technological		
Economic / Industrial	X	Major companies like Tata (main sponsor) are realizing that the so-called middle of Indian demographic diamond is an essential key for national economy.
Environmental		
Political		
Design / Art		

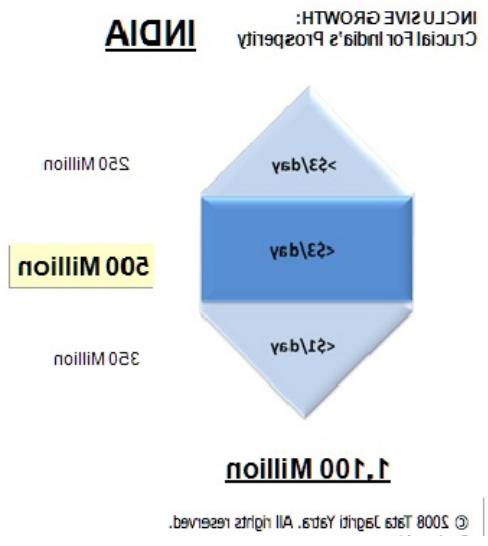
4a) Dimensions	X	Obstacle
Social		
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Relocate the young Indian entrepreneurship to the local scale as a way to get new business opportunities and stimulate social development
Potential “innovation wild card”		
Uncertain	X	Merely another communication opportunity for brands like TATA?
6) Sector specifics / cultural specifics		
This weak signal is specific to the Indian subcontinent.		
7) Source	**X**	**Please specify**
Internet	X	http://jagritiyatra.com/ http://2008.jagritiyatra.com/
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		
8) Informal Remarks		

9) Contacts		
Name	**Contact Details**	**Topic of Interest**

10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated Diffusion**
		The initiative took place in 1997 and 2008

11) Picture





more pictures on http://www.flickr.com/photos/astrolondon/3240298143/in/set-72157601654065159/

4.9.3 DOTT07

1) Institute
SDS
2) Name
DOTT07
3) Abstract
DOTT07 (Designs of the time) is a series of territorial development projects resulting in a festival that were organised in North of England in 2007. DOTT07 explored what life in a sustainable region could be like – and how design could help us get there. Dott 07 projects aim to improve five aspects of daily life: movement, health, food, school and energy. The all process can be described as a large participative innovation process on the territory. In effect, the innovation process consists here in "enabling local people, interacting with inspiring and visionary guests from around the world - to develop their own visions and scenarios. In that sense, DOTT is in the acorns business" (J. Thakara)

4a) Dimensions	**X**	**Driver**
Social	X	Growing collaboration with grassroots communities for enabling social and consumption changes.
Technological		
Economic / Industrial		
Environmental	X	Inspired by current tentatives to enable new and more sustainable ways of living with grassroots communities.
Political		
Design / Art	x	Related to new trends to promote design and design thinking and its capability to support social change
4a) Dimensions	**X**	**Obstacle**
Social	X	Difficulty to estimate the follow-up of local initiatives and their potential diffusion.
Technological		
Economic / Industrial		
Environmental		

Political	X	Lack of influence and real support form the policy making at local and national level.
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	New approach based on channelling local innovations as a way to set up new territorial policies.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet	X	http://www.dott07.com
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		
8) Informal Remarks		

9) Contacts

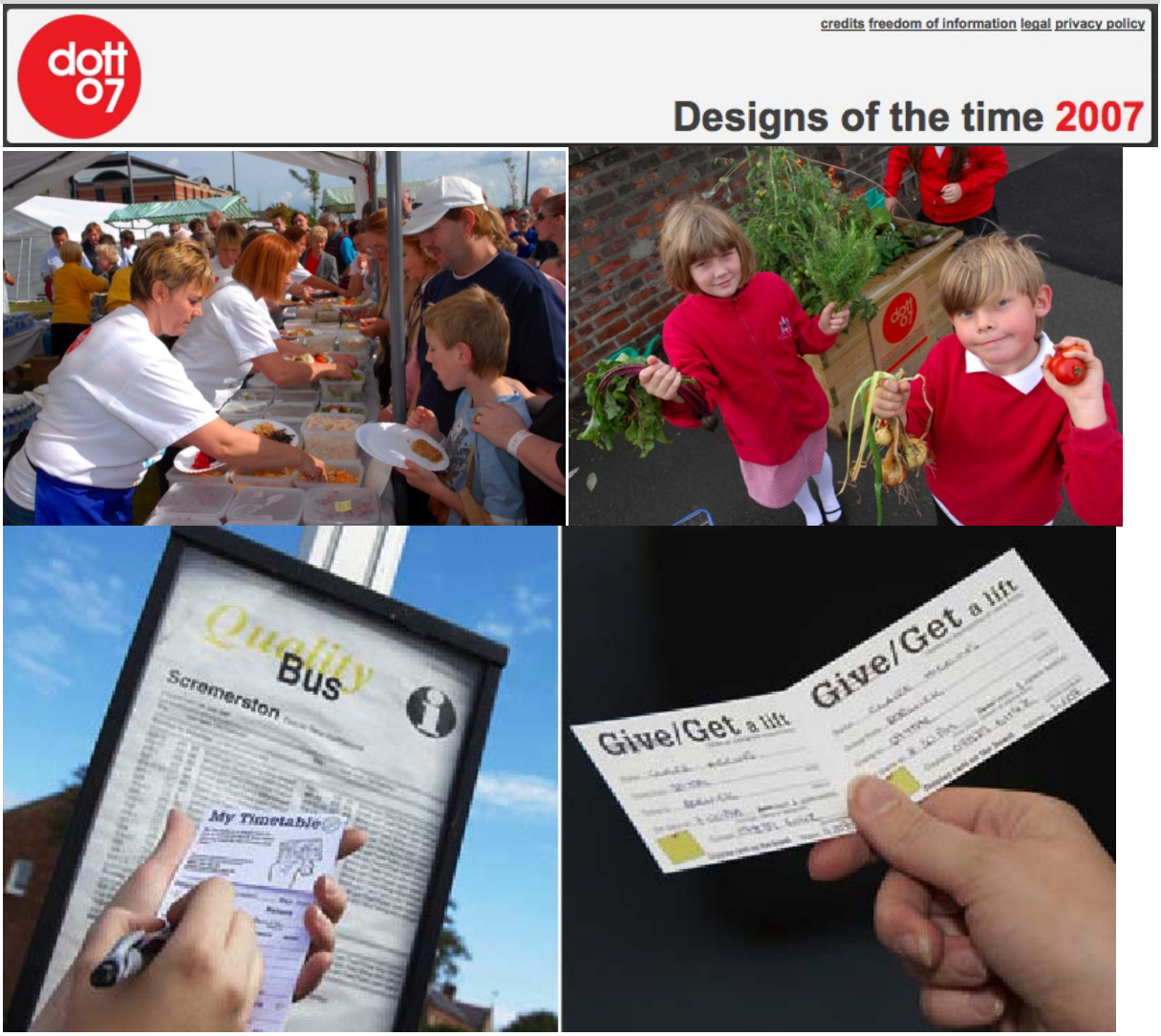
Name	Contact Details	Topic of Interest
John Thakara	john@doorsofperception.com	Social innovation and territorial change

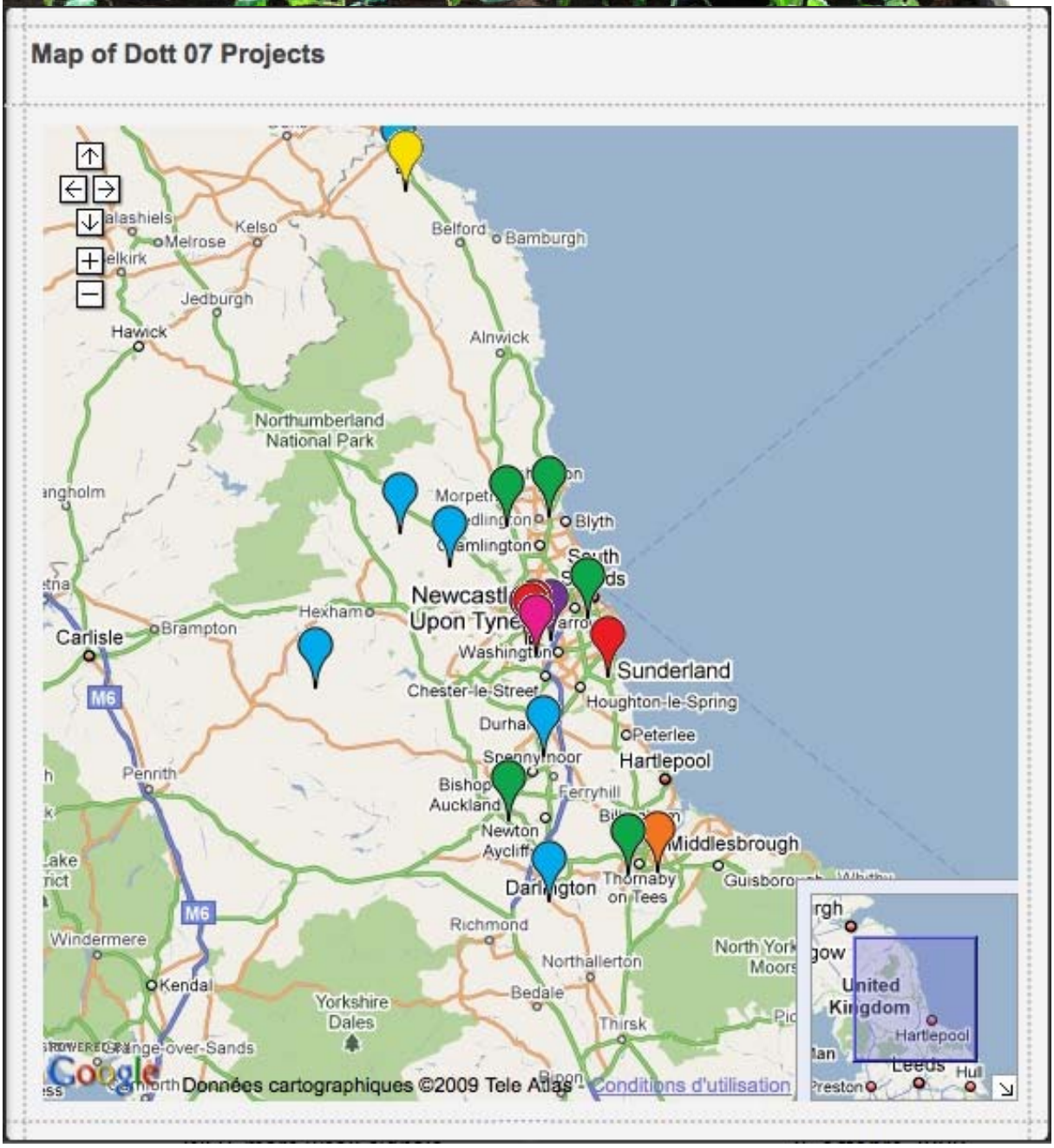
10) Estimated Diffusion

Source	General Comment	Comment on estimated

		Diffusion
		The 2 year process ends up with a festival and a series of projects continuing. A second event DOTT 09 is currently under development in South West England.

11) Picture




Map of Dott 07 Projects
Belford
Bamburgh
Kelso
Melrose
Jedburgh
Hawick
Alnwick
Northumberland
National Park
Blyth
Hexham
Carlisle
Brampton
Newcastle
Upon Tyne
Washington
Sunderland
Chester-le-Street
Houghton-le-Spring
Peterlee
Hartlepool
Middlesbrough
Thornaby
on Tees
Darlington
Penrith
Windermere
Kendal
Richmond
Northallerton
Bedale
Thirsk
Yorkshire
Dales
M6
United
Kingdom
Leeds
Hull
Preston
Google
Données cartographiques ©2009 Tele Atlas
Conditions d'utilisation

4.9.4 Social Innovation – The Urganda Rural Development and Training Programme

1) Institute
Z_punkt
2) Name
Social Innovation – The Uganda Rural Development and Training Programme
3) Abstract
The Uganda Rural Development and Training Programme is a non-profit organization that provides education and training for rural development in the very poor and diverse Kibaale District of Uganda. URDTP is seen as a benchmark project for sucessful social innovation. The starting point for the project was a three-day vision co-design workshop with community members in 1987, defining individual and collective visions and discussing how they could become reality. Today the rural village has become a "boom town," growing tenfold in size. It has a girls´ school, a vocational training institute, a community radio station, a microcredit fund and village extension programmes. What is distinctive about the URDTP educational programs is that everyone learns the creative process--how to create a vision, contrast it with your current reality and take action to achieve your vision (in short, how to innovate!). This creative orientation is amplified through the students with “back home” projects with their families (building latrines, raising new crops, building new homes). Additionally all students learn both traditional subjects as well as practical subjects (solar energy, biogas production, charcoal cooling, construction, entrepreneurship etc.)

4a) Dimensions	**X**	**Driver**
Social	X	The working premises of the URDT are simultaneously the social drivers for a further spread of the signal. People are the key to their own development. With a common vision they can transcend traditional barriers and prejudice caused by tribal, religious, political and gender differences and work together to achieve them.
Technological		
Economic / Industrial	X	Because of the great success of the “innovation” programme in this rural, under-served district and the existence of many other regions that are characterised by similar aspects, the model might serve as a model case for other regions with similar circumstances.
Environmental		

Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social	X	The effects of cultural aspects are hard to consider in advance. They might make it difficult to transfer the concept to other cultural areas.
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Visioning and creative workshops as a starting point for social innovation processes could find a wider acceptance also in Europe. The concept could be transferred e.g. to shrinking regions in Eastern Europe or East Germany triggering a hype for foresight methods in innovation processes.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
This Weak Signal is specific to the District of Kibaale.		
7) Source	**X**	**Please specify**
Internet	X	Found in the internet blog Outside Innovation, URL: http://outsideinnovation.blogs.com/pseybold/2007/03/kagadiboom_town.html
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		

Personal Communication		
Other		

8) Informal Remarks

Maybe the indication of this Weak Signal is more a dream of a futurist? Is this too much or an interesting idea?

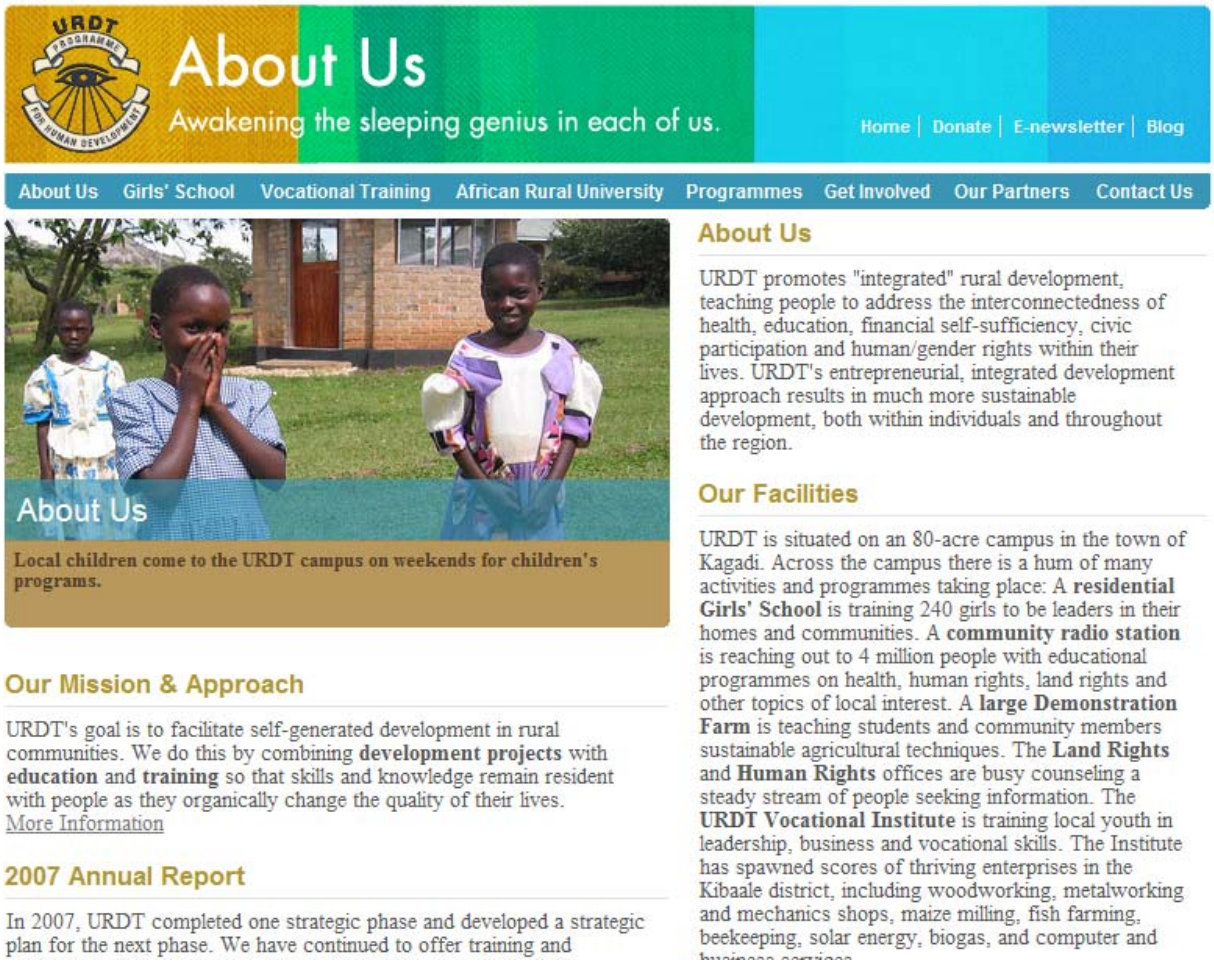
9) Contacts

Name	Contact Details	Topic of Interest
Frederick Musisi Kabuye	http://www.urdt.net/management.html	Director of URDT (Uganda Rural Development and Training Programme)

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture



4.9.5 La Festa dei Vicini di Casa

1) Institute		
SDS		
2) Name		
La Festa dei Vicini di Casa		
3) Abstract		
La festa dei vicini di casa (the party of the neighbours form the same condominium) is an event that aimed at promoting the idea of neighbourhood amongst citizens. The innovation process consists in providing a toolbox online to help citizens organising their own customised version of a daily living solution. The website-based toolbox provides procedures, advices, pre-formated brochures and leaflets, check-lists of good practices... that intends to help even for such a simple action as organising a party with closed neighbours and enable people to take action and organise more of this kind of initiatives.		
4a) Dimensions	**X**	**Driver**
Social	X	Growing awareness of the neighbourhood and its values in large urban contexts.
Technological		
Economic / Industrial		
Environmental		
Political	X	City councils are likely to promote with the help of local associations series of local initiatives instead of larger projects involving the city as a whole. In this case the city council of Roma was promoter of the initiative.
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social	X	The form of a toolkit is targeted to an adaptation process to a specific context and to the particular requirements of the promoters of the initiative rather than a real innovation.
Technological		
Economic / Industrial		
Environmental		

Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	The social innovation is not anymore based on the entrepreneurship of some especially charismatic personalities. The toolkit support make taking action available to a larger share of the population.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet	X	http://www.festadeivicinidicasa.it
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		
8) Informal Remarks		
A toolkit to prompt solidarity and common awareness of the neighbourhood / social benefits that before, in most cases, were only greeted casually.		

9) Contacts		
Name	**Contact Details**	**Topic of Interest**

10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated**

		Diffusion
		Born in Paris in 1999 as a very small initiative, La Festa dei Vicini di Casa is now organised in more than 500 cities involving more than 6 millions people (source: www.lafestadeivicini.it)

11) Picture

4.9.6 Enabling Cards

1) Institute		
SDS		
2) Name		
Enabling Cards		
3) Abstract		
Enabling Cards are a tool to facilitate creative adaptation of social innovations in new contexts. The innovation process is based on a set of cards representing the different dimensions of a particular social-based solution (i.e. in the case of a co-housing, each card represents one element that may be shared by the inhabitants: a collective garden; a shared washing machine; a common living room; etc). Groups of users willing to adapt this solution to their needs and contexts play with the cards to elaborate their personal solution (i.e. eliminating cards for options they don't retain pertinent; modifying certain of the cards they decide to keep; combining their final selection of cards to describe the solution they would like to build...). Enabling Cards constitute the basis of a toolkit enabling laymen to discuss, revise and reshape a social-based solution on their own.		
4a) Dimensions	**X**	**Driver**
Social	X	Tool oriented to channelling and dissemination of social innovations.
Technological		
Economic / Industrial		
Environmental		
Political	X	Innovation/adaptation process developed to empower citizens to design by themselves solutions they require.
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological	X	Enabling Cards are suitable to start and draft a solution but organisational support and technical advice is often needed to prototype and launch effectively the solution.
Economic / Industrial		

Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Enabling Cards and more generally any kind of enabling toolkit are aiming at enabling mainstream people to become social innovators and develop themselves the solutions they would like to benefit from.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet		
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures	X	Conference of the Sustainable Consumption Research Exchange (SCORE!) Network 10-11 March 2008, Brussels, Belgium _Enabling solutions for creative cities. Improving city life in Milan neighbourhoods through academic projects", Roberta Conditi, Teresa Franqueira; _Design for Social Innovation: Enabling replication of shared mobility initiatives in Brussels, Francois Jégou/ENSAV La Cambre, Belgium; Joelle Liberman/Egérie Research, Belgium; Sara Girardi/Strategic Design Scenarios, Belgium;
TV		
Personal Communication		
Other		

8) Informal Remarks

9) Contacts		
Name	**Contact Details**	**Topic of Interest**

10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated Diffusion**
SDS collaborate in the definition and experimentation of Enabling Cards.	The use of cards to prompt social conversation and stimulate creativity is frequently used in user centred design.	The specific use of Enabling Cards to channel social innovation has been only used at experimental level with replication of solution of cohousing in Milan, urban hitchhiking in Brussels and student/elderly cohabitation in Paris.

11) Picture

4.9.7 Territoires en Résidences (residences in territories)

1) Institute		
SDS		
2) Name		
Territoires en Résidences (residences in territories)		
3) Abstract		
Territoires en Résidences is an initiative to stimulate innovation and sustainability in public institutions and public policies. The new innovation process consists in sending multidisciplinary creative teams (i.e. designers, architects, sociologists, computers scientists...) for long periods of immersion in public institutions (i.e. colleges, city councils, regional administration...) on the model of how residences of artists are organised (impregnation and empathy with the context; co-design and stimulation from the inside...).		
4a) Dimensions	**X**	**Driver**
Social	X	Original format enabling social change and acting as a catalyser of innovation in public institutions
Technological		
Economic / Industrial		
Environmental	X	Increased orientation to territory transition towards sustainability
Political	X	Middle level innovation meant as test-bench or demonstrator to influence public policies
Design / Art	X	Design-driven multidisciplinary creative team
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		

5a) Indication	X	Please specify
Change in current innovation patterns	X	3 weeks immersion format of the creative team and strong participative approach represent a significant step towards 'innovation from inside' the structure and user engagement in self-innovation.
Potential “innovation wild card”		
Uncertain		

6) Sector specifics / cultural specifics
For the moment experimented in the public sector

7) Source	X	Please specify
Internet	X	www.la27eregion.fr www.territoiresenresidences.net
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

9) Contacts

Name	Contact Details	Topic of Interest
Stéphane Vincent Romain Thévenet	svincent@la27eregion.fr rthevenet@la27eregion.fr	Transformation of public policies

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
SDS elaborate the	Territoires en Résidences is a	The initiative is at the

methodology of Territoires en Résidences	2 years experimentation programme started in 2009 by the 27e Région a 'think tank' emerging from the "city 2.0" programme. 5 residences will be concluded at the end of 2009 and 10 more are planned for 2010	experimentation stage. It is currently meeting a great interest and increasing requests from the French regions.

11) Picture

4.9.8 Social Innovation Camp

1) Institute
SDS
2) Name
Social Innovation Camp
3) Abstract
Social innovation camp is an experiment in using web based technology for social change. The Camps are weekend-long events bringing together web developers and designers with people at the sharp end of social problems. They consists in competitions to find the best ideas for web tools to create social change and a race to build prototypes for them over one weekend – complete with working software. The events finish with a pitching competition and a chance to win a prize as well as to get some help making your idea a reality. These workshops create a space where people (citizens) have the chance to work to solve everyday life problems that they experience in collaboration with specialists from different backgrounds all of them contributing for free. It is a hands on process which aims to create relationships needed to launch these micro social innovation groups that at the end of the workshop period come up with a web based solution that later they will personally put into practice and reassure the continuity. The continuity of the projects is also aided by The Social Innovation Camp organization during their putting in to practice.

4a) Dimensions	**X**	**Driver**
Social	X	Growing need for projects, which are executed by the people who experience personally the focused problems, increasing the chance to get solutions into practice. Growing awareness of the fact, that the fostering of new relationships in workshops can lead to new projects enacting real change and leading to socially-oriented, innovative start-ups using the social web.
Technological	X	The emergence and spread of social web tools.
Economic / Industrial		
Environmental		
Political		
Design / Art	X	Growing influence of designers and design thinking in social innovation processes.

4a) Dimensions	X	Obstacle
Social		
Technological	X	The opportunity to use potentialities of social web (empowering social reactivity; light and quick to develop) is also a limitation since not all social problems may benefit from this type of technology.
Economic / Industrial	X	Camps intends to be starters actions and the realisation of some of the solutions especially on the big scale will be dependant on finding motivated project holder and financing to carry-on implementation of the project.
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Social Innovation Camps plays the role of an innovation accelerator involving various skills on a volunteer participation basis changing radically the way social innovation is made. But Camps seems to be efficient process in particular to start innovation and activate networks without the guaranty of follow-up and proper implementation.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
Specifically focussed on interaction between social change and web technology		
7) Source	**X**	**Please specify**
Internet	X	http://www.sicamp.org/
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		

Personal Communication		
Other		

8) Informal Remarks

9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
	Social Innovation camp idea start in 2007 as hybrid between BarCamp unconference and software developers Hackdays.	A few events have been organised in 2008 and 2009 with backing from in particular NESTA, Young Foundation and the Office of the Third Sector.

11) Picture


mypolice

4.10 Open Design / Open Objects

4.10.1 Fab Labs – Fabrication laboratories for everyone

1) Institute		
Z_punkt		
2) Name		
Fab Labs – Fabrication Laboratories for Everyone		
3) Abstract		
The concept of Fablabs - fabrication laboratories for everybody with flexible manufacturing equipment, consisting of several production tools such as laser cutters, CNC-Machines, 3D-printers, water jet cutters and injection molding machines – was developed by Neil Gershenfeld from the MIT. These small-scale workshops empower individuals to create personalised products solving local problems and answering personal needs by themselves. “Fabs” exist already in the United States, South Africa, Ghana, India, Norway and Costa Rica.		
4a) Dimensions	**X**	**Driver**
Social	X	Division of labour has increased the alienation of citizens from technology as well as crafty skills. Fablabs or also DIY and Rapid Prototyping grass-root movements try to regain “control” over production. The aim is to foster creativity and curiosity for physical products and enable people to create products without the help of professional manufacturers. This is especially interesting for people in emerging and developing countries since they suffer from a fabrication divide and the fact, that a lot of products are not produced for their local circumstances.
Technological	X	The continuous improvement of technological performance and the cost reduction of manufacturing equipment might lead to a further diffusion and establishment of Fablabs in even more communities.
Economic / Industrial	X	Fablabs might also gain importance in industrialised countries since more and more companies react to a customer demand for personalised products and offer user toolkits for innovation and design. But this attempt is constrained by limited solution spaces, and the production of the customised product so far is still conducted by the manufacturer. Customers could therefore demand more freedom and control over

		products.
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		
Environmental	X	A wide spread of fabbing could be real burden on the environment, increasing the amount of products and trash.
Political	X	A wide spread of fabbing own products could also be restricted by law since quality standards will be hard to maintain.
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	User innovations and Open Design might be further encouraged by a wide access to efficient technologies, which help to manufacture custom-designed solutions without having to rely on a company to optimise, produce and purchase it. As seen today in the open source movement, the production and distribution can be carried out by the innovators themselves. Companies then “only” provide the basic materials, support and services.
Potential “innovation wild card”	X	Manufacturers become redundant, as customers solely create products by themselves.
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet	X	The Weak Signal was found in the Ponoko blog, URL: http://blog.ponoko.com/2009/04/30/dr-neil-gershenfeld-speaks-in-manchester-on-fablabs/
Daily Newspaper		

Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture

4.10.2 ARDUINO – New open hardware

1) Institute		
SDS		
2) Name		
ARDUINO		
3) Abstract		
Arduino is open-source electronics prototyping platform based on flexible, easy-to-use hardware and software. It is intended for artists, designers, hobbyists, and anyone interested in creating interactive objects or environments using the open-source microcontroller board, the Arduino. Arduino innovation process is based on sort of kit: a physical computing platform based on a simple open hardware design, which allows anybody to develop stand-alone interactive objects or objects connected to a host computer. The Arduino hardware reference designs are distributed under a Creative Commons. Layout and production files for some versions of the Arduino hardware and various components are also available. The project began in Ivrea, Italy in 2005 to make a device for controlling student-built interaction design projects less expensively than other prototyping systems available at the time. The Arduino project received an honorary mention in the Digital Communities category at the 2006 Prix Ars Electronica		
4a) Dimensions	**X**	**Driver**
Social	X	Existing DIY electronic community
Technological	X	Based upon Open-source and simple micro-controllers technology
Economic / Industrial		
Environmental		
Political		
Design / Art	X	Growing developments in interactive processes and interaction design projects that require traditionally high-cost equipement…
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		

Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Arduino is the major example of the new open-hardware* era based on micro-controllers technology that allows anybody to design daily 3D applications or modify current electronic devices. *Instead of sharing the schematics, hardware description language (HDL) code is shared. HDL descriptions are commonly used to set up system-on-a-chip systems either in field-programmable gate arrays or directly in application-specific integrated circuit designs. HDL modules, when distributed, are called semiconductor intellectual property cores, or IP cores.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
By now, mainly supported for interactive processes and interaction design projects.		
7) Source	**X**	**Please specify**
Internet	X	http://www.arduino.cc & http://www.arduino.cc/playground/ http://en.wikipedia.org/wiki/Arduino
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other	X	Some examples of applications made with arduino on: http://fritzing.org/projects/
8) Informal Remarks		

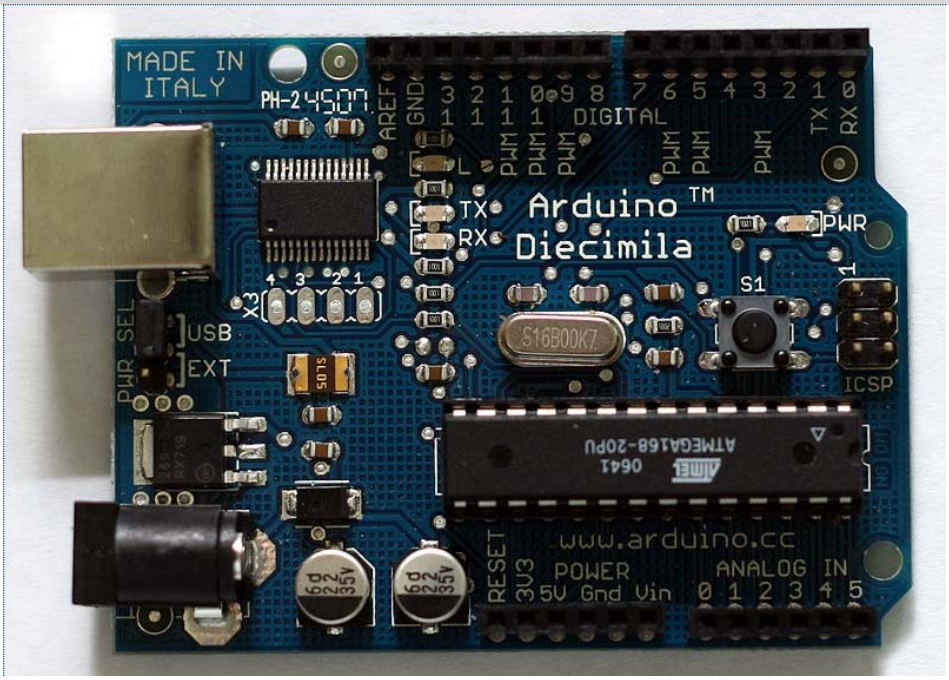
9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
		More than 50,000 Arduino boards have shipped as of October 2008. An increasing Arduino Community.

11) Picture



4.10.3 Oscar – The Open Source Car

1) Institute		
Z_punkt		
2) Name		
OScar – The Open Source Car		
3) Abstract		
OScar is an open source project launched in 1999. The objective is to jointly develop a car on the internet according to open source principles. Thus, the soft- and hardware used in the project are freely accessible to everyone willing to participate in the project.		
4a) Dimensions	**X**	**Driver**
Social	X	With the so-called “Digital Natives” generation – the age group that grew up with Web 2.0. – entering leading position in companies and politics the collaboration via the internet will accelerate in all areas of life and all scientific disciplines.
Technological	X	The global establishment of novel forms of information technologies will revolutionise the way people interact and communicate with each other. The World Wide Web 2.0. enables more and more engineers, scientists and customers from all over the world to interact through virtual networks in order to exchange information and knowledge as well as collectively create knowledge.
Economic / Industrial	X	The increasing mobility of knowledge workers will lead to a diffusion of specific and innovation relevant knowledge that was originally merely existent in R&D departments of innovating firms. Additionally, the global success of open-source software development fosters a transfer of the initial open source concept from the sphere of software and digital goods to the domain of physical goods.
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**

Social	X	One significant obstacle might be the emergence of conflicts between community members as there are no licensing restrictions imposed to others and contributions are freely available to every participant of the project. In particular, conflicts might arise, due to insufficient regulations of compensation, especially when it comes to the commercialisation of the commonly developed product.
Technological	X	A pervasive issue might be the solely virtually conducted prototyping and application of trial and error processes without conducting any evaluations drawing on real conditions regarding the application context. Therefore, the actual production and commercialisation of the virtually co-developed product may be too risky, due to insufficiencies concerning reliability performance and qualitative aspects.
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Open source concepts are quite established in the scope of digital goods and software development. Transferring the principle to tangible products could in the long run lead to a democratisation of innovation processes.
Potential “innovation wild card”	X	Combined with the possibilities of rapid prototyping this could revolutionize the way we produce and distribute goods: Open Source Society.
Uncertain		
6) Sector specifics / cultural specifics		
This Weak Signal is specific to the automotive industry		
7) Source	**X**	**Please specify**
Internet	X	OScar, URL: http://www.theoscarproject.org/
Daily Newspaper	X	Süddeutsche Zeitung, URL: http://www.sueddeutsche.de/computer/535/321404/text/

Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

9) Contacts

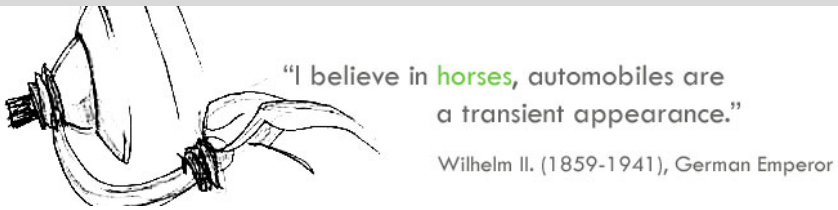
Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
www.open-innovation-projects.org	There are more Open Design Projects also in other sectors	

11) Picture

OScar
reinvent mobility



4.10.4 Bildr – DIY electronic kit

1) Institute
SDS
2) Name
Bildr – DIY electronic kit
3) Abstract
Bildr is a project of open platform offering access to componentized instruction sets, "building blocks" for making various hardware and software constructions accessible to anybody. The innovation process is based on a very detailed toolbox (i.e. subsystems; components; where to buy them; programmation scripts in different languages; etc) that allow non experts to assemble and combine them and progressively create a new electronic system while familiarizing at the same time with IT environments. Bildr is an attempt to integrate existing DIY electronic kits and the availability of functional pieces of information and know-how available in open source on the Internet into one semi formalized larger system of construction developed by the electronics DIY community itself.

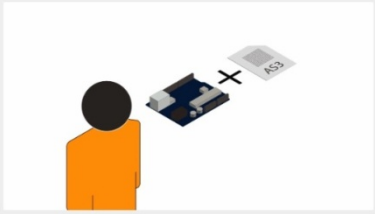
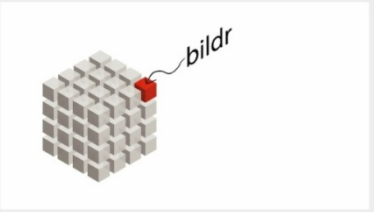
4a) Dimensions	**X**	**Driver**
Social	x	Growing access to the creation of IT systems and application to larger share of the population
Technological	x	It participates to the current idea that technology can be break down into functional building blocks and recomposed as a gigantic lego…
Economic / Industrial		
Environmental		
Political		
Design / Art	X	New media artists encounter technical obstacles that don't directly belong to their field; this projects seems specially dedicated to them.
4a) Dimensions	**X**	**Obstacle**
Social	X	Bildr requires a lot of input from numerous knowledgeable people. It also still requires to know exactly what it is needed to do what you want to do or to solve a specific problem?

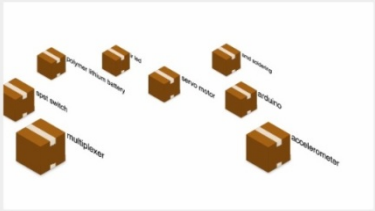
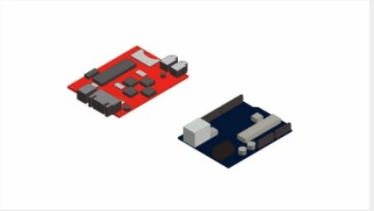
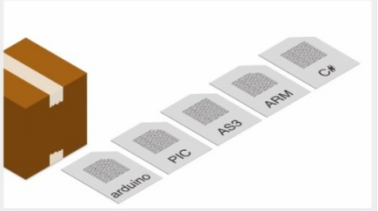
Technological	x	The same concept of reducing the complexity of technology into building blocks limits innovation to one reductive partition of the reality.
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	x	Information technology is a major driver of change in the everyday life of our society but unless other previous generation of technology (i.e. mechanics) it is not available for laymen. The trend of DIY electronic kits (i.e. PIC, Arduino) intends to free grassroots creativity making this powerful technology accessible to anybody.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
Enabling large public to create electronic systems		
7) Source	**X**	**Please specify**
Internet		http://bildr.org/
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		
8) Informal Remarks		

9) Contacts		
Name	**Contact Details**	**Topic of Interest**

10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated Diffusion**
	As Bildr is not active yet there isn't feedback on the performance or any examples of projects.	Even if Bildr is not active yet, it represents the last development of a now consolidated trend of DIY electronic kits and community on Internet.

11) Picture

4.10.5 Ponoko

1) Institute		
SDS		
2) Name		
Ponoko		
3) Abstract		
The process of innovation consists in giving the user the freedom to design, create and build (while posing some quite strict technical limits) any sort of object that could reside in his/her mind. It works with laser cutting technologies. *"You can design a product and get it made in your own personal factory.* *You can also edit and mash-up the product plans you download from Ponoko to create something completely original."* The site has a very bidimensional approach to designing and creating objects, yet it's very powerful and versatile. Some examples of object created by users just by combining 2D elements include tables, lamps, necklaces, and so on.		
4a) Dimensions	**X**	**Driver**
Social	X	There's an increasing need for personalized and customised objects in different kinds of people.
Technological	X	New cheaper and advanced laser cutting devices
Economic / Industrial		
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		
Environmental		
Political		

Design / Art	X	Only certain products and ideas can be created via this model.
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Ponoko is one of the successful projects of 3D product design technologies *open to non professionals*. It can be seen as the successor of what could be defined the 2D graphic revolution held some years ago with the diffusion of powerful softwares available for everyone.
Potential “innovation wild card”		
Uncertain		

6) Sector specifics / cultural specifics
This weak signal is specific to product design.

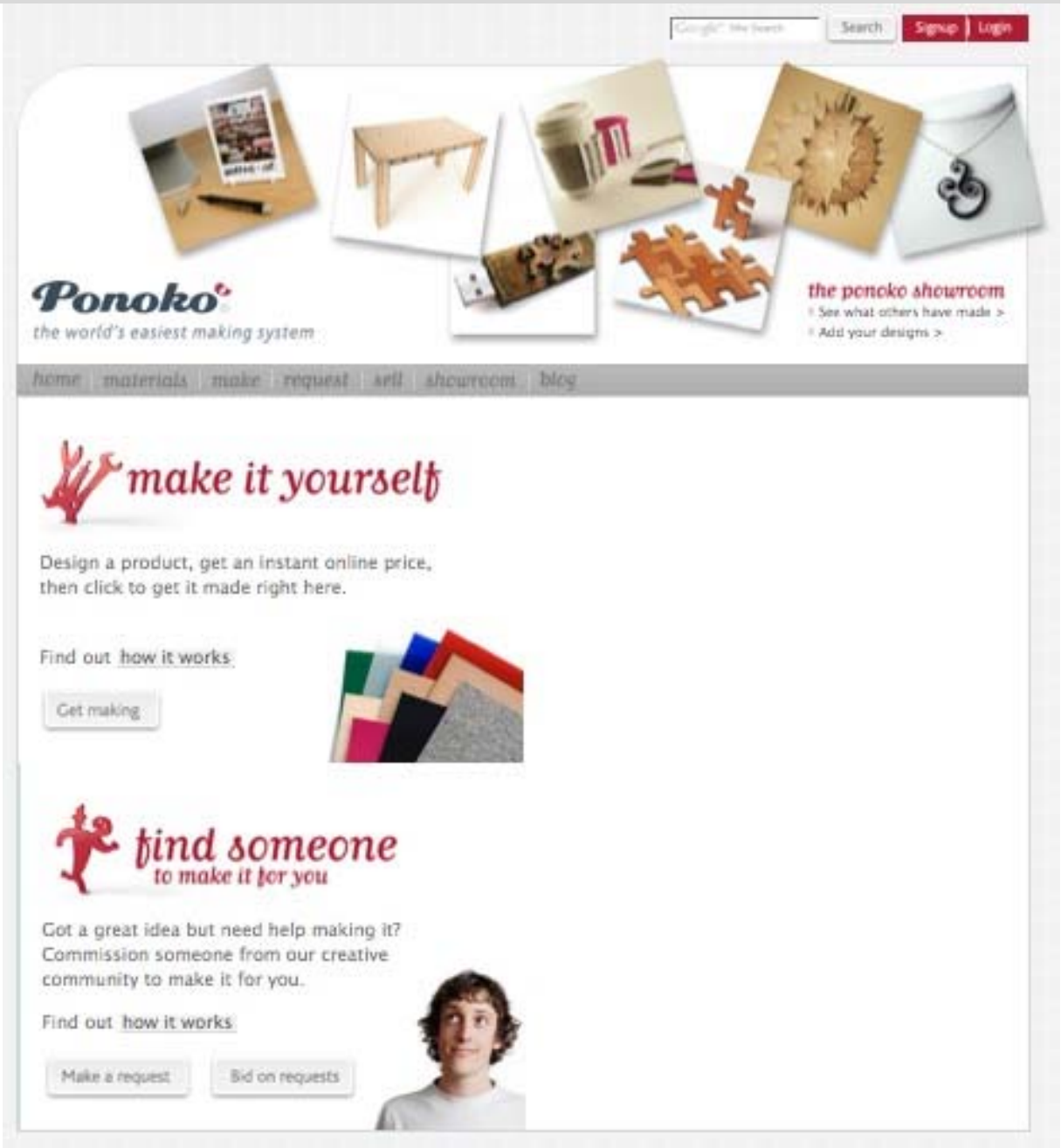
7) Source	**X**	**Please specify**
Internet	X	http://www.ponoko.com
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks
Ponoko has its most defining feature in its main limit: the bidimensionality of the parts of each design creates a way of thinking and a style at the same time. In fact, the creators call ponoko "the world's easiest making system"; it probably is. It demonstrates that product ideation and creation can be posed in a light and easy-going way. There's also a "showroom" page, where users can start from others' models, find ideas and inspirations, therefore further innovating.

9) Contacts		
Name	**Contact Details**	**Topic of Interest**

10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated Diffusion**

11) Picture



Technics SL-1210MK2 Clear Protector

by: iart $2.00

Raum3 - Magazine Rack

by: allesprodukt $3.50

Solarchandelabrap3

by: NorthwardsDesignStudio $1.00

digits calendar - jumbo

by: digits $90.00 - 105.00

Necklace - New Zealand

by: freestylen $25.00

Spore Floor Lamp

by: alienology $180.00

4.11 Global Knowledge Sharing

4.11.1 BarCamps

1) Institute		
SDS		
2) Name		
BarCamps		
3) Abstract		
BarCamps designate kind of augmented workshops increasing the possibilities of interaction between large numbers of participants. The innovation process consists in mixing on-line and off-line discussion (participants exchanging at the same time by voice and through computer), physical co-presence of participants during an immersion-like session of one or more days, preparation and after event conversations on the web. The objective is to encourage a bottom-up, participative structuration of the creative conversation and a maximum of interaction between diverse and numerous (i.e. 50 to 200) participants to foster cross fertilization of ideas.		
4a) Dimensions	**X**	**Driver**
Social	X	People are now slowly confident enough with social computing tools and efficiency. BarCamps encourage multidisciplinary experts/laymen informal creative interaction in the spirit of social computing.
Technological	X	Involve the use of social computing tools like wiki, blogs, instant messaging...
Economic / Industrial		
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		
Environmental		

Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	BarCamps reveal a trend of involving a larger number of diverse participants and intensify the possibilities of interaction between them to enrich creative/reflexive processes and results obtained
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
Not specific to any sectors although more popular in IT/web communities		
7) Source	**X**	**Please specify**
Internet	X	Many references such as http://en.wikipedia.org/wiki/Barcamp
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		
8) Informal Remarks		

9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

	First BarCamps refered as such is quite recent: 2005	Quite large diffusion of this kind of meeting sessions referred all around the world

11) Picture

4.11.2 Sprout – E-course for Idea Growth

1) Institute
Z_punkt
2) Name
Sprout – E-course for Idea Growth
3) Abstract
Sprout offers an electronic course, in which people from all over the world can exchange their knowledge and help each other to further elaborate their social or environmental project ideas. Sprout tries to attract dynamic activists, leaders, and professionals, which are trained by sprout facilitators to become e-mentors. Everyone can be a mentor and help other young people with their expertise and knowledge gained in similar projects. Sprout exists to help make the process of innovating simpler, more practical and less intimidating by guiding you through the project management process step-by-step. It provides a way to learn, grow and connect in a supportive environment that encourages creativity, involvement and hard work to create a better world.

4a) Dimensions	**X**	**Driver**
Social	X	Increasing environmental pollution all over the world motivates people to take responsibility for their local communities and initiate projects how to improve environmental conditions, and thereby may create new solutions.
Technological		
Economic / Industrial	X	In times in which social responsibility of companies is regarded as important, social innovations may be seen as tool to increase a company's reputation.
Environmental	X	See: Social Dimension
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		

Technological	X	In order to make the most of the idea the digital gap has to be bridged. So far the poorest of the poor, who suffer most from a whole range of social, economical and environmental problems often lack access to modern communication technology.
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	The sprout e-course is an attempt to give people in local communities, especially in emerging and developing countries, but also in less developed regions in Europe, the chance to participate in a global knowledge exchange. In the long run, the newly gained expertise of these people could also provide companies, governments and people in industrialised countries with unique knowledge and lead to new ways of solving social, economic and environmental problems.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet	X	http://sprout.tigweb.org/
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

9) Contacts		
Name	**Contact Details**	**Topic of Interest**

10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated Diffusion**

11) Picture

4.11.3 Global Ideas Bank

1) Institute
SDS
2) Name
Global Ideas Bank
3) Abstract
The Global Ideas Bank is one of the greatest ideas site on the internet today. A not-for-profit website that is "part suggestion box, part networking tool, part democratic think-tank and part inspirational entertainment". The innovation process consists in a large open contest where anybody provides any kind of ideas and votes for the best ones. The Global Ideas Bank's origins lie in the Institute for Social Inventions, which was set up in 1985. It was part of the first European Social Innovations Exchange, and has been a source of inspiration for countless individuals and organizations. In 2001, the Institute was awarded a Margaret Mead Special Recognition Award for "community creativity for a new century". In 1995, the Global Ideas Bank (itself an award-winning idea originally suggested by an American correspondent) was first established online.

4a) Dimensions	**X**	**Driver**
Social	X	Increased interest in creative engagement in the population and to give visibility to grassroots ideas.
Technological	X	Availability of easy access Internet tool to organise database and contests at worldwide scale in a very light way.
Economic / Industrial		
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial	x	A context of ideas may turn to be a game for itself where people involve their energies in generating new ideas instead of implementing some.

Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Innovation is moving from a private, closed-doors setting to an openly shared one. The very idea that at first sight seems to be the most important think in the innovation process seems to become secondary behind the fact of selecting which is the best one and finding a proper context to make it grow.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
This weak signal is not specific to any sector.		
7) Source	**X**	**Please specify**
Internet	X	http://www.globalideasbank.org
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		
8) Informal Remarks		
Having a favoured direction for our surroundings to improve is something we have as an instinct; this website gives the chance to think about the priorities and topics of highest interest that each one of us has, slowly defining them while creating a fertile ground for new derivative reflections on them. The majority of the highest rated proposals involve our environment; it's a big receptive signal from both the creators and the voters.		
) Contacts		
Name	**Contact Details**	**Topic of Interest**

		n/a

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
		Global Ideas Bank is worldwide collection of idea and other similar websites are providing similar banks of ideas. But no indications can be found on the effective effect of sharing and collectively selecting ideas in the effective development of innovations.

11) Picture

4.11.4 Whole Brain Catalog

1) Institute		
SDS		
2) Name		
Whole Brain Catalog		
3) Abstract		
This open environment has been developed by a team of researchers from the UC San Diego to connect members of the worldwide neuroscience community to facilitate solutions for today's new challenges in brain research, taking for the first time all the information and data about a mouse brain together. The innovation process consists in opening the academic research to a larger researchers community; academic research generally limited to one or multiple universities working together under contract. The innovation starts in putting scientists first, as a community of researchers, instead of universities. The innovation process consists in a website that shows slices through the brain, 3D representations of brain parts as well as cell and molecule models. Users may contribute all the multiple scales of data using upload tools to semantically tag their data, which makes it readily searchable. Researchers can create their own views and combinations of data to reveal unique views.		
4a) Dimensions	**X**	**Driver**
Social		
Technological	X	New tools allow users to see High resolution pics from professional full 3D engine on their personal computer and permit them to tag and comment.
Economic / Industrial	X	Based on the current shift in international scientific (here, neuroscience) research which aims to be facilitated worldwide, overtaking academic barriers.
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		

Technological		
Economic / Industrial	X	Will all of the researchers promptly share their data?
Environmental		
Political	X	What are the legal terms of ownership of any potential discovery?
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	It facilitates common references for researchers (neuroscientists), and an equal starting point for further advancements.
Potential “innovation wild card”		
Uncertain	X	Can a compilation of images from a worldwide research community prompt potentially innovation and new scientific discoveries?
6) Sector specifics / cultural specifics		
This weak signal is specific to the neuroscience sector.		
7) Source	**X**	**Please specify**
Internet	X	http://wholebraincatalog.org/ http://developers.wholebraincatalog.org/ http://wiki.wholebraincatalog.org
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		
8) Informal Remarks		
Having a common starting platform leads to many results, among which resides the		

chance for neuroscientists from developing countries to contribute actively to the field, and to get updated news and results.

9) Contacts

Name	Contact Details	Topic of Interest
n/a		

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
		n/a

11) Picture

4.11.5 Creative Communities for Sustainable Lifestyles

1) Institute		
SDS		
2) Name		
Creative Communities for Sustainable Lifestyles		
3) Abstract		
Creative Communities for Sustainable Lifestyles is a research project aiming at defining new and more sustainable ways of living. The innovation process is based on the idea of looking at social innovation worldwide to collect initiatives in daily living (i.e. food purchase groups; car pooling; co-housing...) that may inspire new everyday life solutions (i.e services, products...) with a potential to reduce impact on environment and regenerate social fabric compared to the mainstream.		
4a) Dimensions	**X**	**Driver**
Social	X	Based on observation of grassroots/social innovation and aimed at enabling social change.
Technological		
Economic / Industrial		
Environmental	X	Aiming at inspiring new and more sustainable ways of living
Political		
Design / Art	X	Based on service design approaches
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**

Change in current innovation patterns	X	New approach based on channelling patterns of social innovation into more organised, professional and participative services.
Potential “innovation wild card”		
Uncertain		

6) Sector specifics / cultural specifics

services in relation to everyday living

7) Source	X	Please specify
Internet	x	www.sustainable-everyday.net/ccsl www.sustainable-everyday.net/ccsla
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication	X	10 years framework of programmes for sustainable consumption and production / Marrakech Process / Swedish Task Force and Sustainable Lifestyles / UNEP - UN DESA
Other		

8) Informal Remarks

9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
SDS took part in the European research project EMUDE (Emerging User	Interests in social innovation as a model to stimulate and inspire social change is rapidly	This approach is at the experimentation level. Some follow-up projects are trying to implement developments of

Demands in sustainable solutions) that experiment the process in 2006.	spreading worldwide.	new services at the territory level.

11) Picture

4.11.6 Social Search – The Real Time People Web

1) Institute		
Z_punkt		
2) Name		
Social Search - The Real Time People Web (http://vark.com/)		
3) Abstract		
The amount of information being available on the web in real time explodes, especially since Facebook status updates and tweets on twitter. It is now possible to see what lots of people are talking about in real-time on the web. This enables the so-called „Social Search“. In contrast to web search, the Vark social search engine makes it possible to find a person who has the information you are looking for. How does it work? Online contents indicate the area of expertise of any given person (this can then also be used as a filter) and reveal their contact information. To use social search engines for posting questions is more effective then posting it in a specific forum, because the social search engine links more people at the same time and act as a kind of filter, posting the question only to those how might answer them. Advantage: The index of people is always up-to-date and has not to be managed in databases. With more people being online more often, the number of answers increases.		
4a) Dimensions	**X**	**Driver**
Social	X	People show a great willingness to share their knowledge with each other and helping each other. Additionally, people increasingly use the web as main source of information, as they believe it is faster and more up to date than books or other offline publications.
Technological	X	Mobile devices and the “evernet” will further increase the number of people using real-time applications. It becomes easier and easier to share knowledge through the web and get in touch with each other.
Economic / Industrial		
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**

Social	X	People could feel annoyed by getting asked by other people too often after the social search engines has pointed to them. The flood of online and real-time data could quickly become overwhelming for most people and create new barriers to knowledge exchange.
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	By now, the web was mainly used to find facts and published content. With social search, people are able to get in touch with each other in real time and share their knowledge, also the one not made visible online (so far). Today the existing social search engines are designed to find people that know practical things, like: “where can I go for the best cocktail in town?” but it is easily imaginable that the idea is adopted to find answers to scientific questions as well. What really matters is the increased accessibility of people, not just information online. In general, innovation and exchange of knowledge become easier and happen in real time. New solutions and unique combinations of skills are made possible, globally.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet	X	http://blog.vark.com/?p=201
Daily Newspaper		
Magazine		
Scientific Literature		

Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

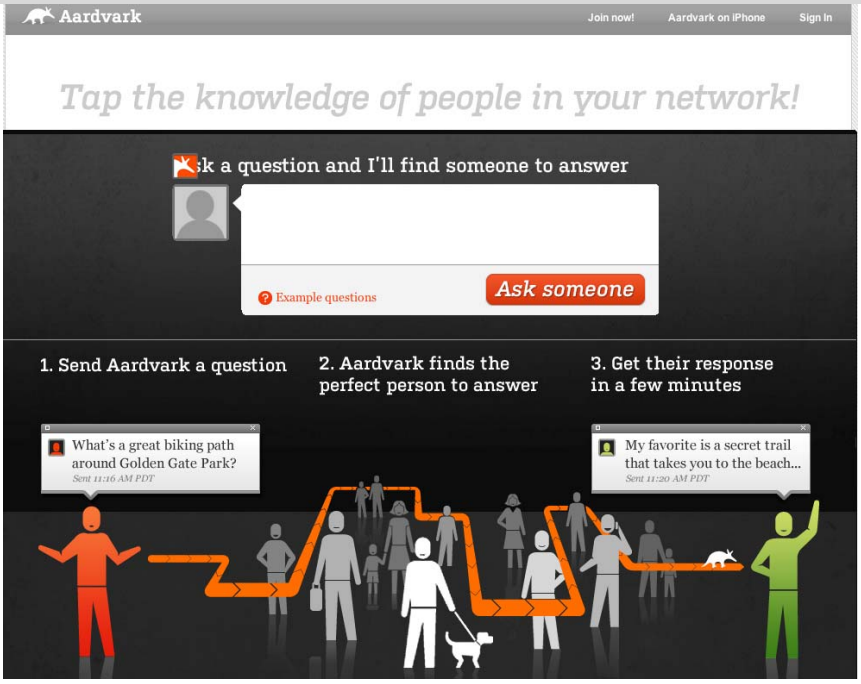
9) Contacts

Name	Contact Details	Topic of Interest
Damon Horowitz	damon@aardvarkteam.com	Aardvark

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture



4.12 Attitude Towards / Awareness of Innovation

4.12.1 Edison Nation: Match-making for innovation companies

1) Institute
Z_punkt
2) Name
Edison Nation: Match-making for Innovators and Companies
3) Abstract
Edison Nation is an online community dedicated to inventors and people with ideas. It aims at helping them to turn their ideas into products and companies discovering those ideas. People can submit their ideas (into the Live Product Search database), learn about invention processes, present their ideas to companies and find other people who are capable of helping them with skills they lack (inventors help inventors). Edison Nation sees itself as an intersection between inventors and business. By a network of retailers and manufacturers new product ideas are brought to store shelves. If an idea is selected by a company, the inventor is paid a $2,500 advance plus a percentage of sales. Selected innovation ideas and their process from the idea to a real product are documented by the Everyday Edisons show – broadcasted on TV and DVD.

4a) Dimensions	**X**	**Driver**
Social		
Technological		
Economic / Industrial	X	In times of me-too-ism and ever faster innovation and product cycles, companies have to find new products in ever shorter intervals in order to surprise their customers. User-driven innovations bear a large, so far untapped potential of innovations. Companies are happy to get in touch with creative people and commercialize their ideas. On the other hand, as the economy is about to transits into a creativity economy, the individual is depended on marketing their ideas in order to make money.
Environmental		
Political		
Design / Art		

4a) Dimensions	X	Obstacle
Social		
Technological		
Economic / Industrial	X	If the number of comparable platforms increases, this, after a critical number is exceeded, might lead to less successful innovations, as people might get lost in the oversupply of opportunities and cannot decide to whom to present their ideas.
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Edison nation is sort of like a talent show for innovators and inventors. In an entertaining manner the TV show accompanies selected personalities on their way to success. This could be a weak signal that innovation processes will become more tangible for the public and that popularity of innovations are increasing.
Potential “innovation wild card”	X	A personality cult evolves around innovators: They are the next big stars!
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet	X	http://www.everydayedisons.com/default.aspx
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		

Other		

8) Informal Remarks

The new thing about Edison is that it offers the full range of steps that is needed to put peoples´ ideas into store shelves - from the idea, over the concept phase, a first industrial design, engineering (prototyping), brand building to the final commercialization.

9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture

4.12.2 Putting the NO on InNOvation

1) Institute		
Z_punkt		
2) Name		
Putting the NO in InNOvation		
3) Abstract		
In the beginning of 2009 the American cereals manufacturer Post came up with a new campaign under the tagline “Why we put the NO in Innovation.” By emphasizing the 100% natural ingredients and the fact that the product has not changed for centuries, *Frank Duff* – a fictional CEO – motivates his employees to be proud of the lack in progress and innovation their company and their product have shown over the years.		
4a) Dimensions	**X**	**Driver**
Social	X	The success of the advertising campaign is driven by a growing mistrust in innovation by consumers, who increasingly cherish values, like honesty, trustworthiness, security and ecological awareness.
Technological		
Economic / Industrial	X	Emerging social and sustainable consumption patterns.
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social	X	The fact that stating a “NO to innovation” stirs up public attention can also be driven by the fact that this goes against the usual day-to-day opinion.
Technological		
Economic / Industrial		
Environmental		
Political		

Design / Art		Advertising campaigns are driven by hype cycles and the need to provoke. What is popular today can be completely neglected tomorrow.
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	This weak signal could be a hint that more and more companies start actively distancing themselves from an innovative image. Instead they merely focus on their “evergreens” and rely old but proven and successful products with a stable market share, e.g. Post, Coca Cola, Manufactum etc.
Potential “innovation wild card”		
Uncertain	X	In the last years traditional brands did not change radically, but they have innovated packaging design, sales channels, production and logistic processes. It is hard to imagine they will stop innovating processes. But maybe they will start hiding it from the public?
6) Sector specifics / cultural specifics		
Probably more important for consumer goods.		
7) Source	**X**	**Please specify**
Internet	X	http://www.realinnovation.com/commentary/archive/putting_the_no_in_innovation.html http://www.mpdailyfix.com/2009/04/when_saying_no_to_innovation_m.html http://www.youtube.com/watch?v=HUCOXvsgzsg
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		
8) Informal Remarks		

9) Contacts		
Name	**Contact Details**	**Topic of Interest**
10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated Diffusion**
http://www.sixtus-vs-lobo.de/svl/video/133/	A critic of the hype around social innovation platforms in the web	Critic of the hype around innovation has diffused to the social innovation scene and web community
http://www.businessweek.com/magazine/content/07_11/b4025421.htm	Harsh critic in the innovation campaign of ford: The ill-timed TV spot illustrates how companies are flying the innovation banner, hoping if they simply shout the magic word loudly enough, consumers will buy their products. Ford's experience shows that people want the real thing. Kevin McCullagh: "The term has been overused and abused of much of its meaning, with every lame brand-tweak and extension being hailed as a 'innovation.'"	

11) Picture


A Delicious Cereal
A Gentle Laxative
Post's 40% BRAN FLAKES
WITH OTHER PARTS OF WHEAT
THE NEW CRISP PACK
NET WT. 8 OZ.
MADE IN U.S.A.
Instant POSTUM
A CEREAL BEVERAGE
There's a Reason
Makes 100 Cups
MADE INSTANTLY IN THE CUP

4.12.3 24 hours of Innovation

1) Institute		
Z_punkt		
2) Name		
24 Hours of Innovation Marathon		
3) Abstract		
The Board Of Innovation, an online network of innovators, organised a 24 Hour non-stop marathon of innovation projects around the world on May, 15th of 2009. During a full day and night more than 60 participants presented their innovation initiatives in predefined timeslots, ranging from small innovation blogs up to large multinationals. This event included live-streamed brainstorming sessions, a free access to an inspiration-database and multimedia presentations of all the latest innovation projects.		
4a) Dimensions	**X**	**Driver**
Social		
Technological	X	Technical possibilities of the Web 2.0 enable innovative forms of communication and business promotion
Economic / Industrial	X	Innovative business organisations are increasingly forced to showcase their innovation projects to a broad audience in innovative and spellbinding manners.
Environmental		
Political		
Design / Art	X	Presentations using different media can attract interested people to co-create and collaborate in open innovation projects.
4a) Dimensions	**X**	**Obstacle**
Social	X	Organising co-creation in an event-like manner can also increase the reservation of users towards participating in open innovation projects, if they feel it is “only a show”.
Technological		

Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	This is a signal that companies and even regions might tend to conduct a more open and innovative way to promote their innovation activities to the environment. In this case the communication of innovations is not merely restricted to the common stages of market launch and implementation but is rather applied much earlier in the process. Furthermore, the spectacular character of the of this event could be able (if being advertised in a broader attempt) to captivate a wide range of distinct external knowledge and transfer it into new products and services. Co-creating innovation could become a mass event.
Potential “innovation wild card”	X	The crucial characteristic of live-streaming creativity-techniques might pave the way to highly interactive methods of idea- and solution-generation. This could lead to the emergence of Rapid-Online-Innovation-Projects and Just-In-Time-Implementation of the ideas being produced.
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet	X	In the Website of the innovation network openinnovators.net → link to an announcement on boardofinnovation.com
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		

TV		
Personal Communication		
Other		

8) Informal Remarks

On the one hand this sounds like a really fun event, which could be interesting even for people who have not seen themselves as innovators so far. On the other hand it also sounds like a typical promotion project, which is not really interested in opening the innovation processes but most of all wants to communicate the innovative image of the participating companies.

9) Contacts

Name	Contact Details	Topic of Interest
Board of Innovation		Organisation that hosted the event
Philippe de Ridder		Member of the Board of Innovation and involved in the review of the Marathon
All companies that participated in the 24 Hour Marathon		Engagement in the 24 Hours of Innovation

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture

4.13 Non – Western Innovation / Shift in Innovation Gravity

4.13.1 Disruptive Innovation from India: The Tata Nano

1) Institute		
Z_punkt		
2) Name		
Disruptive Innovation from India: The Tata Nano		
3) Abstract		
In January 2007 Tata Motors, India´s largest company in the automobile and commercial vehicle sector, launched a four-seater car with a purchasing price of around 1440 Euro. The Tata Nano is now the world's cheapest car. Automotive suppliers are, amongst others, the German companies Bosch, Continental and BASF. In order to achieve this very low price, Tata Motors reduced the production costs by radically decreasing the car's performance and focusing on a strictly low-cost-design. Since 90% of future growth in the car sector will take place in emerging and developing regions Tata is now in a "pole position" to conquer a major future growth market: low-price cars.		
4a) Dimensions	**X**	**Driver**
Social	X	As an India-based company, Tata has specific knowledge of local needs and the willingness to develop innovative and creative solutions, which fit the requirements of people with low income. Western companies so far have refused to develop a low-cost model even though they have the necessary abilities.
Technological	X	Tata´s Nano is composed out of several well-known technological solutions, such as the usage of plastic instead of metal, identical and modular components and is supplying a share of up to 40% of the car's components via internet auctions. All together these factors could constitute a successful innovation strategy, which is worth to be imitated by more companies from other emerging countries.
Economic / Industrial	X	The main driver is considered to be the target group of the Tata Nano and it's vast market potential. The target group is mainly composed of motorcyclists, moped riders and drivers of three-wheelers in India and other emerging countries with low spending power. Since the price of the Tata Nano is only two times higher than the price for a conventional Indian motorcycle, many people can now afford themselves a safe and comfort vehicle possessing four wheels.

		Extremely low labour costs in India and the already mentioned cultural factors constitute favourable framework for international automobile corporations to outsource R & D tasks relating to low-price vehicles to departments located in India.
Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Traditionally, disruptive technological innovations have been developed by international corporations with their origin in Western industrial nations. This Weak Signal is a prominent example for a possible change in this current innovation pattern, especially when it comes to innovations serving emerging markets and people at the bottom of the economic pyramid.
Potential “innovation wild card”	X	Corporation from emerging countries dominate the global market for innovations in one or more sectors. First they become successful in emerging and developing countries. In a second step they take over Western markets.
Uncertain		
6) Sector specifics / cultural specifics		
This Weak Signal is specific to Emerging Markets		
7) Source	**X**	**Please specify**
Internet	X	On the blog “Die Innovationsmaschine”, URL: http://die-innovationsmaschine.de/?p=88

Daily Newspaper		
Magazine	X	Süddeutsche Zeitung, URL: http://www.sueddeutsche.de/wirtschaft/699/429452/text/
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture

4.13.2 Innovation Network Corporation of Japan: Japan's Hidden Champions shall collaborate

1) Institute
Z_punkt
2) Name
Innovation Network Corporation of Japan: Japan's Hidden Champions shall collaborate
3) Abstract
In face of growing global competition and up catching competitors from other Asia countries, business conditions for Japanese so far very successful medium-sized companies (hidden champions) become tougher. Previous success factors, such as high individual R&D spending, outsourcing of low-cost production, keeping high-tech knowledge hidden at home (even for customers), possessing the complete supply chain, life-long employment and producing highly individual solutions for the customers, more and more lose their might. Furthermore, experts suggest that Japanese companies waste some of their innovation potential, as they do not cooperate with each other and therefore fear the risk of being surpassed by larger competitors.
In order to help overcome the reluctance among companies to share technologies and join forces, in July 2009 METI (Ministry of Economy, Trade and Industry) established the Innovation Network Corporation of Japan (INCJ). It acts sort of as a national private-equity fund, with assets and credit guarantees of $9 billion. It aims to invest in promising intellectual property, with the idea of creating spin-off companies or encouraging consolidation. The INCJ aims to provide financial, technological and management support in order to promote open innovation, and the flow of technology and expertise beyond the boundaries of existing organisational structures.

4a) Dimensions	**X**	**Driver**
Social		
Technological		
Economic / Industrial	X	The further increasing global competition and up-catching companies from developing countries forces established players in industrialized countries to join forces and restructure the domestic economy.
Environmental		
Political	X	Economics ministers are interested in strengthening the domestic competitiveness, i.e. by joining forces. They look at the total economic

		value of an industry and related jobs, rather than on single companies and their traditions.
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial	X	Resentments by very traditional companies, which are still bound to old ideas and do not see the necessity to cooperate / join such a network.
Environmental		
Political	X	Shifts or closure of production facilities in the course of consolidation may bring up local politicians, which fear the loss of tax money and jobs in their area. The overall success of such a network / domestic approach relies strongly on including all relevant stakeholders.
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	More state-driven and nationally focused industry wide, large-scale innovations, rather than closed doors research by single companies.
Potential “innovation wild card”	X	Governmental forced cooperation between domestic players in order to deal with the increasing pressure from foreign competitors. This would mean a drastic governmental intervention into the free market economy. Results uncertain.
Uncertain		
6) Sector specifics / cultural specifics		
That network is founded in Japan but is imaginable in other countries as well. Scotland has already established a similar public institution in 2003 (ITI Scotland).		
7) Source	**X**	**Please specify**
Internet	X	http://www.economist.com/displaystory.cfm?story_id=14793432 / http://www.pcb007.com/pages/zone.cgi?a=51913 / http://www.incj.co.jp/PDF/090727-02.pdf
Daily Newspaper		

Magazine	X	The Economist
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

9) Contacts

Name	Contact Details	Topic of Interest
Innovation Network of Japan	+81 3 5218 7200	
ITI Scotland	http://www.itiscotland.com/defaultpage121c0.aspx?pageID=60	Z_punkt knows persons responsible of ITI in person, which can be contacted if needed.

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture

4.13.3 Innovation Culture of the Tata Group

1) Institute		
Z_punkt		
2) Name		
Innovation Culture of the Tata Group		
3) Abstract		
Tata Consultancy Services, a firm belonging to India´s Group, makes internal innovation corporate culture top priority. Several strategies have been implemented in order to build a culture of innovation and stimulate employees to think innovatively. These strategies involve e.g. creative thinking as one of nine performance categories on which employees are evaluated as well as making innovation an essential component of all trainee programs. Furthermore five hours of the 45-hour week can be used by employees for developing ideas on new concepts and product improvements. An internal social network that permits employees to post, comment and vote on ideas supports the idea generation process.		
4a) Dimensions	**X**	**Driver**
Social	X	People increasingly seek to act out their creative and individual potentials in their working life. This growing demand for self-expression spreads in all social levels. Companies try to increase employee loyalty by answering this demand.
Technological		
Economic / Industrial	X	Due to the permanent change of increasing customers´ needs and the growing competitive pressure in several markets, companies have to seek new ways to create groundbreaking ideas in order to create value with innovations. One promising strategy is the integration of the firms´ employees into the process of new product development and recognise them as a promising source for ideas on product improvements or even genuinely novel products. The claim to be an innovative company and to build success on more space for creative and innovative employees was formerly seen as a Western phenomenon. With the shift of economic gravity to Asian countries this approach will become more and more common in companies in emerging countries.

Environmental		
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	This weak signal indicates that in the future benchmarks for innovation processes and cultures could increasingly come from Non-Western companies. Irrespective of the regional origin of this weak signal is could be a sign that more and more companies seek innovative inspiration by fostering the creative potential of their employees also beyond the R&D department.
Potential “innovation wild card”	X	Shift of innovation centres from Western to Non-Western countries.
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet	X	http://www.tata.com/innovation/index.aspx?sectid=XSZkK5C4qvU=
Daily Newspaper		
Magazine	X	Business Week, URL: http://www.businessweek.com/innovate/content/aug2009/id20090819_070601.htm Video: http://www.businessweek.com/innovate/content/jun2009/id20090617_735220.htm

Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

9) Contacts

Name	Contact Details	Topic of Interest
Sunil Sinha, CEO of Tata Quality Management Services		Tata´s innovation culture
Ananth Krishnan, TCS Chief Technology Officer		Tata´s Young Innovator Award

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture

4.13.4 Non – Western Innovation Boom: Biotech in China

1) Institute		
Z_punkt		
2) Name		
Non-Western Innovation Boom: Biotech in China		
3) Abstract		
China invests vast amounts of resources into research programs in order to foster basic research and applied science, in particular concerning the sponsorship of future technologies such as biotech. The budget of research institutions and universities has grown with an annual growth rate of 20% recently. This development and other contributing factors such as the local presence of high-skilled scientists, a supporting regulatory environment and low costs of research give rise to the establishment of China as a powerful research location. This is especially true for the biotech sector and is encouraged by an ongoing settlement of international pharmaceutical companies.		
4a) Dimensions	**X**	**Driver**
Social		
Technological		
Economic / Industrial	X	The reason for the attractiveness of China as a research location for biotech is mainly an enormous cost advantage. The relatively low expenditures on clinical tests and the availability of high-skilled scientists such as chemists, biologists and pharmaceutical chemists, whose initial salary levels are way below the standard in the EU and the United States, might lead to a further settlement of international pharmaceutical companies in China and a clustering of biotechnological skills and know-how.
Environmental		
Political	X	Particularly beneficial regulations concerning the conduction of genetic assays or fiscal benefits, such as reduced tax rates or even exemptions for high-tech companies might further attract international companies to conduct pharmaceutical research in China.
Design / Art		
4a) Dimensions	**X**	**Obstacle**

Social		
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Traditionally new technologies, medicines and vaccines are researched and developed in Western industries. This Weak Signal could indicate, that in the future, fundamental achievements and innovations in biotech and pharmaceutics might emerge mainly in research clusters in China.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
Specific to the biotech and pharma industry		
7) Source	**X**	**Please specify**
Internet		
Daily Newspaper		
Magazine		
Scientific Literature	X	China´s jump into the biotech-age, URL: http://www.process.vogel.de/management_und_it/forschung_entwicklung/grundlagenforschung/articles/112535/
Studies	X	China on it’s way to the global research lab, URL: http://www.pwc.de/portal/pub/!ut/p/kcxml/04_Sj9SPykssy0xPLMnMz0vM0Y_QjzKLd4p3NgsASZnFG8Q76kfCRHw98nNT9YP0vfUD9AtyI8odHRUVARB3vvI!/delta/base64xml/L3dJdyEvd0ZNQUFzQUMvNElVRS82X0JfQ0VS?siteArea=49c234c4f2195056&content=e561830aa3e773a&topNavNode=49c4e4a420942bcb&displayMode=print
Conferences / Lectures		
TV		

Personal Communication		
Other		

8) Informal Remarks

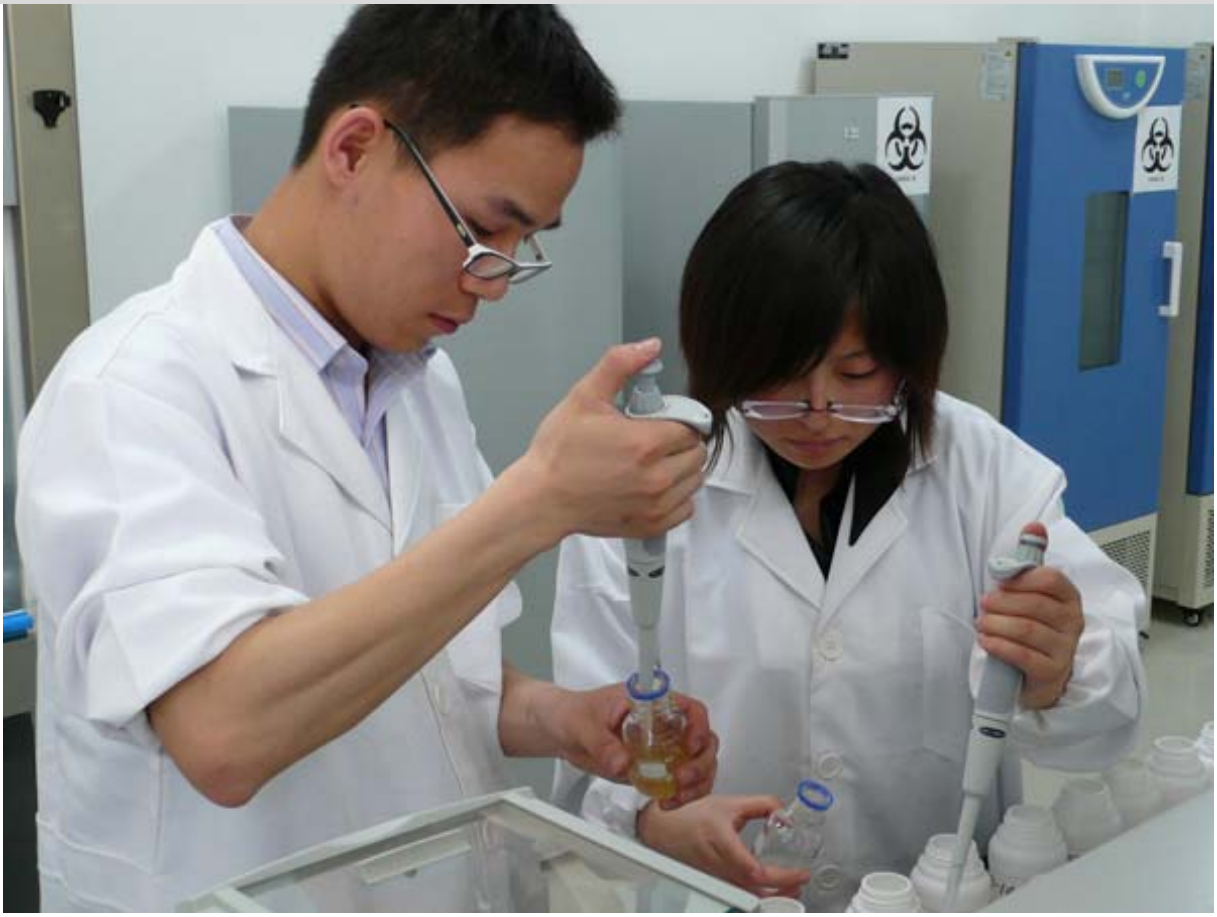
9) Contacts

Name	Contact Details	Topic of Interest

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion

11) Picture



4.13.5 Reverse Innovation

1) Institute		
Z_punkt		
2) Name		
Reverse Innovation		
3) Abstract		
Traditionally, innovations found their way from developed to emerging markets in the form of less-sophisticated products at lower prices. The numbers of examples that work the other way around are increasing. It is more and more the case that innovation "trickles up" from emerging to developed nations. GE Chairman Jeffrey calls this tendency “reverse innovation”. Which means to say that since developing and emerging countries have become big and sophisticated markets a growing number of Western companies make use of cheap R&D and low-cost manufacturing in these regions and start innovating locally for the domestic market. Afterwards they introduce the innovations to their Western home markets.		
4a) Dimensions	**X**	**Driver**
Social	X	So far people in developing countries are still underserved by Western companies and therefore often have to look for themselves for innovative solutions that are affordable and fit their specific needs. Slowly companies in developing regions are now becoming aware of these market opportunities and try to adapt their innovation strategies (Bottom-of-the-Pyramid-Solutions)
Technological		
Economic / Industrial	X	Asia is expected to be the global powerhouse of economic growth in the future. Especially Asian companies have caught up in many areas and are about to overtake Western player in a lot of market segments and will develop a large amount of new ideas.
Environmental		
Political	X	Especially Chinese and Indian Governments spent large sums on R&D and promote the foundation of innovation cluster. Furthermore officials support companies to acquire Western knowledge.
Design / Art		

4a) Dimensions	X	Obstacle
Social		
Technological		
Economic / Industrial		
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	Western scientists and consumer will have to accept that they might loose their leading position in innovation. This shift to the East could lead to less financial capabilities in Western economies for innovation. As enterprises become more global networked, the share of scientists from developing countries will also increase and influence innovation processes.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet	X	http://endlessinnovation.typepad.com/endless_innovation/2009/10/innovation-at-the-bottom-of-the-pyramid.html
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

9) Contacts		
Name	**Contact Details**	**Topic of Interest**

10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated Diffusion**

11) Picture

4.14 Lifecycle Thinking in Innovation

4.14.1 Guidelines for sustainable solutions

1) Institute
SDS
2) Name
Guidelines for Sustainable Solutions
3) Abstract
These 11 guidelines have been proposed in the occasion of the Sustainable Everyday Exhibition in 2003 in Triennale di Milano. They formulate in a very simple way, what should be observed/watched by product-service designers to align with sustainable criterias. In particular, the fist guideline formulated as *"Think before doing. Weigh up the objectives (since certain design proposal are in themselves ethically or environmentally unacceptable, before starting on a project think about its general implications"* is intended as a way to temperate the innovation-oriented mind of designer, discourage innovations that are not useful and propose to consider existing artefact and what can be done with them before inventing new ones.

4a) Dimensions	**X**	**Driver**
Social	X	Down shifting and related trends counter to mainstream consumption.
Technological		
Economic / Industrial		
Environmental	X	Growing awareness for a wiser use of natural resources
Political		
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial	X	Strong innovation-oriented consumer society
Environmental		
Political	X	The lack of political power to support de-innovation

Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns		
Potential “innovation wild card”		
Uncertain	X	It represents both an evolution of an already happening change of priorities, and a drastic change in some daily life perspectives.
6) Sector specifics / cultural specifics		
This weak signal is not specific to any sector or culture.		
7) Source	**X**	**Please specify**
Internet		
Daily Newspaper		
Magazine		
Scientific Literature	X	Manzini, Jegou – "Sustainable Everyday – Scenarios of Urban Life", Ed. Ambiente, Milan, 2003
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		
8) Informal Remarks		
Sign of de-innovation or attempt to question innovation before considering it as the solution to any problems.		

9) Contacts		
Name	**Contact Details**	**Topic of Interest**

10) Estimated Diffusion		
Source	**General Comment**	**Comment on estimated**

		Diffusion
		Limited to the dissemination of the exhibition and to its catalogue.

11) Picture

4.14.2 Re-design

1) Institute		
SDS		
2) Name		
Re-design		
3) Abstract		
The increased market of second hand good on the internet raised the interest of designers oriented to sustainability. They developed the idea of establishing a new design activity based on the design of new products not starting anymore from rough material but from second hand components. This approach has been called 're-design' and is aiming at starting from components available in quantity on the second hand markets to creatively imagine what kind of products could be developed out of them (i.e. one of the project proposed to assemble old fans of computers into 'wind mills walls' to produce electricity using the wind power into urban environments).		
4a) Dimensions	**X**	**Driver**
Social		
Technological	X	Technology driven approach, starting form the availability of technical components to imagine new usages.
Economic / Industrial		
Environmental	X	Based on second hand markets available on the Internet
Political		
Design / Art	X	Design driven approach
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial		
Environmental		
Political		

Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	The process is in line with the traditional craft made out of recycled materials of components but pushing it to become a real industrial activity.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**
Internet		
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication	X	Re-design has been developed and experimented at the design department of the Melbourne University, Australia
Other		
8) Informal Remarks		

9) Contacts

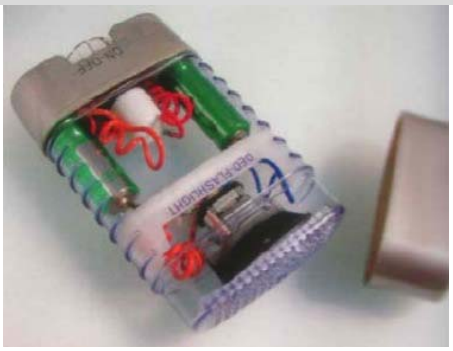
Name	Contact Details	Topic of Interest
Chris Ryan Diane Moy	cryan@greenlightdistrict.com dmoy@unimelb.edu.au	Eco-design, design for sustainabilty

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
		Design research approach

		experimented in university laboratory with group of students.

11) Picture

4.14.3 Venlo – A Whole Town Adopts the Principle of "Waste is Food"

1) Institute
Z_punkt
2) Name
Venlo – A Whole Town Adopts the Principle of „Waste is Food"
3) Abstract
Venlo (NL) and its 90.000 inhabitants adopted McDonough and Braungart´s concept of Cradle to Cradle (waste = food) as a vision for their city. This joints the industry with the politicians, the general public and the creative people in a giant common project. Entrepreneurs in Venlo saw it as a great tool for innovation that also makes sense economically, while saving our planet. The Venlonians agree that the concept is very difficult to put into practice by the industry, but Cradle to Cradle is a common goal towards which they all work, share ideas, raise questions, find answers and take actions to make it work. An exhibition in Maastricht in 2008/2009 now presented the first Cradle to Cradle (C2C) products developed by companies in the region of Limburg (where Venlo is situated). An important future milestone will be the Floriade in 2012, the World Horticulture Fair, held every 10 years. The Floriade organisers have also decided to adapt Cradle to Cradle as their main theme, building a 66-hectare sustainable fair ground, which afterwards will be used to build Greenpark Venlo, a planned green business area.

4a) Dimensions	**X**	**Driver**
Social		
Technological	X	Sustainable technology is believed to be the 6th wave of innovation (including radical resource productivity, whole system design, biomimicry etc.). Since the First Industrial Revolution, there have been at least six waves of innovation. In the 1700s: Iron, textiles, mechanisation, commerce. In the 1900s electricity, chemicals, cars. In the mid 20th century: petrochemicals, space race and electronics. The most recent wave of innovation brought computers and the information age.
Economic / Industrial	X	Spread of green business models that help to build profit, brand and competitive advantage, while reducing "waste", environmental impact, and risk. Air pollution, ground water contamination, degraded land and waste endanger economic

		growth.
Environmental	X	Shortage of fossil fuels, freshwater, minerals and metals. Time frame to reroute: 3 to 4 decades.
Political	X	Increasing governmental aid for sustainable markets as well as political regulations, penalties & environmental standards for corporations.
Design / Art		
4a) Dimensions	**X**	**Obstacle**
Social		
Technological		
Economic / Industrial	X	The C2C concept has no clear link to the financial economy. If C2C competes in a traditional economical environment, it will suffer. As long as the financial economy stays linear, the real economy cannot become circular.
Environmental		
Political		
Design / Art		
5a) Indication	**X**	**Please specify**
Change in current innovation patterns	X	This WS could indicate that after the last innovation wave triggered by ICT we are on our way to enter the area of sustainable technology. Truly applying the principle of “waste = food” changes the innovation process of products since it forces designers and innovators to consider the entire lifecycle of each component and / or make the best of those materials, which can be fully re- or up-cycled.
Potential “innovation wild card”		
Uncertain		
6) Sector specifics / cultural specifics		
7) Source	**X**	**Please specify**

Internet	X	http://www.treehugger.com/files/2008/03/venlo-cradle-to-cradle.php http://www.treehugger.com/files/2008/12/cradle-to-cradle-exhibition-maastricht.php
Daily Newspaper		
Magazine		
Scientific Literature		
Studies		
Conferences / Lectures		
TV		
Personal Communication		
Other		

8) Informal Remarks

Interesting video on the cradle 2 cradle concept:
http://video.google.com/videoplay?docid=-3058533428492266222#

More information on the Dutch cradle to cradle initiative:

www.letscradle.nl

http://www.enlightennext.org/magazine/unbound/media.asp?id=256

9) Contacts

Name	Contact Details	Topic of Interest
Roger Cox, founder of the C2C movement in NL	http://www.letscradle.nl/	

10) Estimated Diffusion

Source	General Comment	Comment on estimated Diffusion
http://www.nutec.de/	Fair on Crade2Crade in Frankfurt	Almost all sectors have 1-2 niche providers, that feature C2C Design

11) Picture

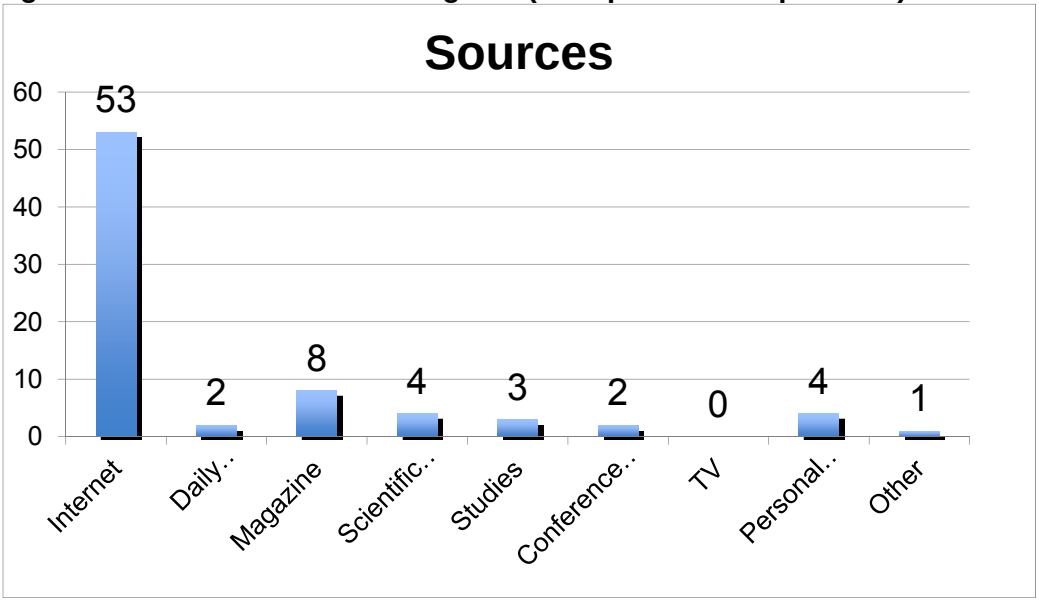

Straelen
Grubbenvorst
Deurnsche Peel
Sevenum
Velden
221
Wachtendonk
40
E34
A67
E34
Venlo
Kempen
Maasbree
Blerick
Meijel
N277
Tegele
Grefrath
509
Panningen
Baarlo
Helden
N273
Süchtelner Höhen
Vorst
Kessel
Roggel
Beesel
Neer
7

4.15 A first analysis of the results

In the last chapter, a first analysis of the weak signal scanning exercise is given based on the data collected for each signal (see also chapter 3 for the Framework). We focus on the drivers for and obstacles to innovation, which are particularly interesting when further selecting signals which will be elaborated during the scenario building.

All in all, 63 weak signals were identified in the various sources (see Figure 2).

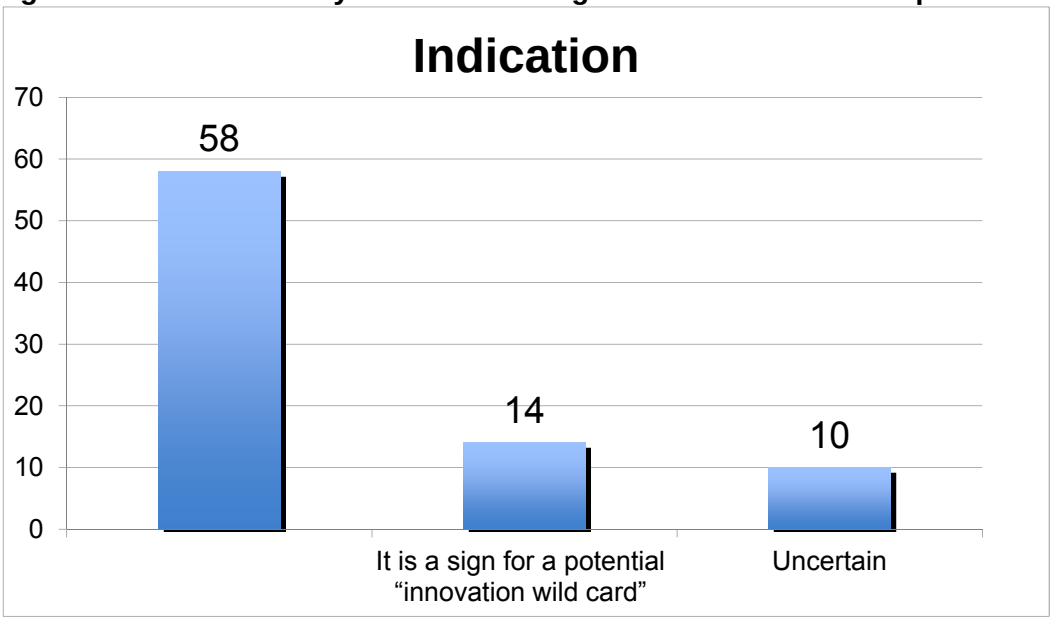
Figure 2: Sources of the weak signals (multiple sources possible)



Source: Own depiction

58 signals indicate a change in current innovation patterns, 14 signals could additionally be a potential “innovation wild card” and for 10 weak signals, their impact is uncertain.

Figure 3: Selection of key words sketching the current innovation pattern

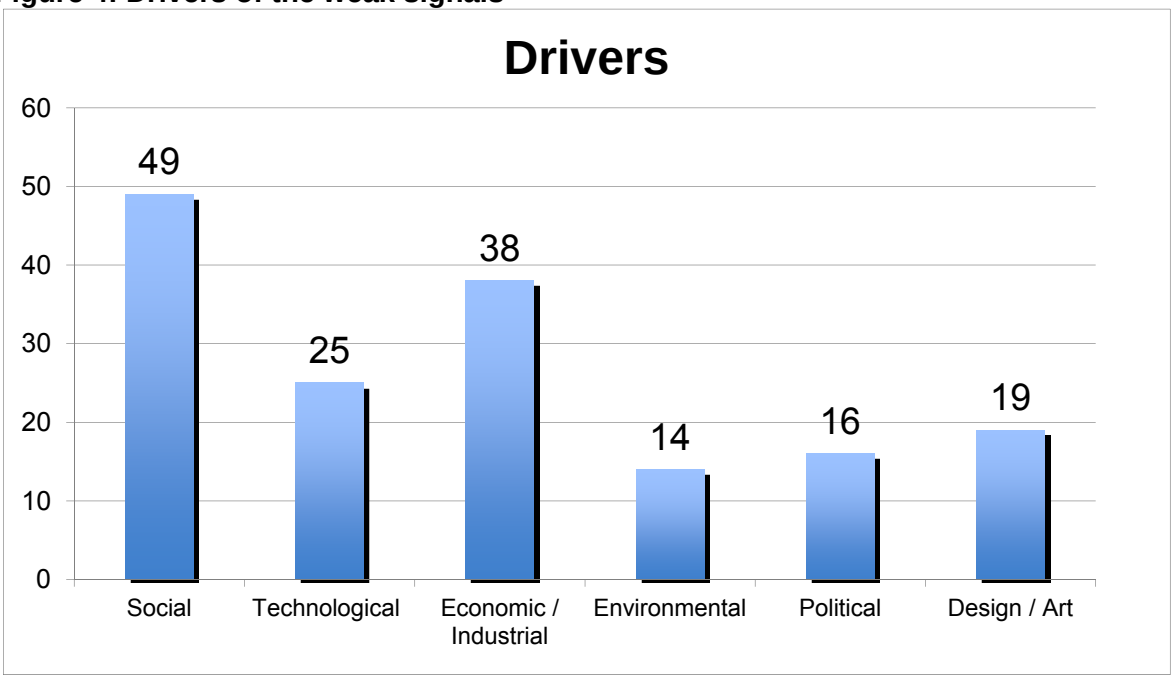


Source: Own depiction

Drivers & Obstacles

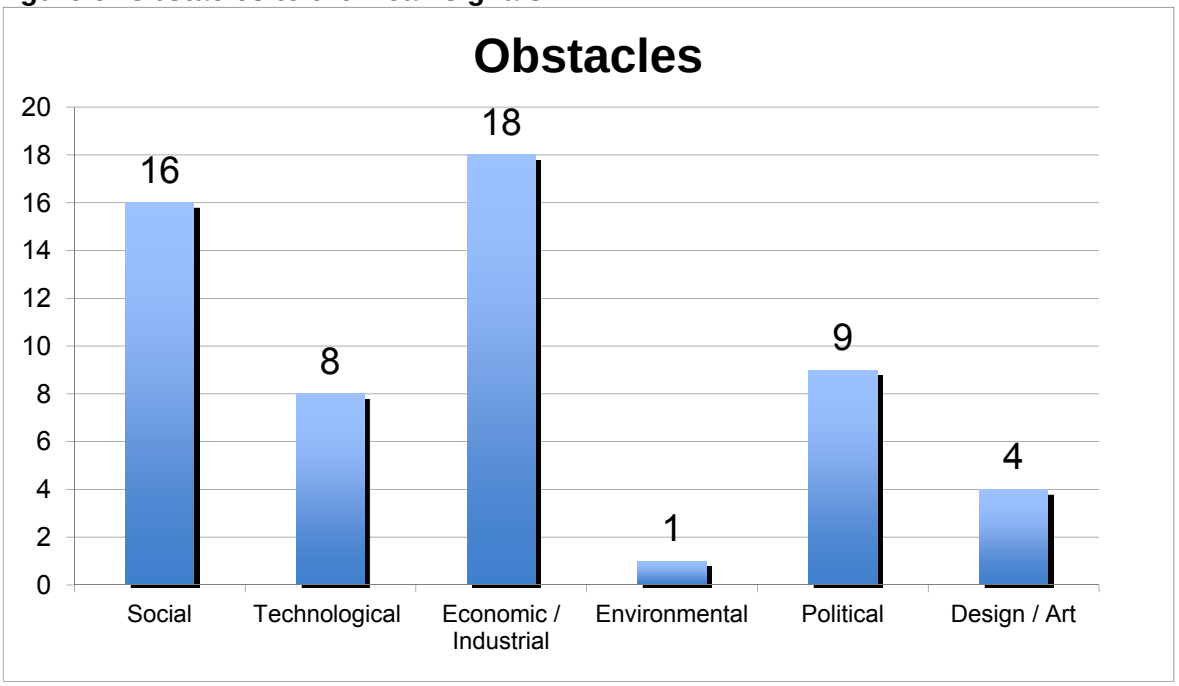
In total, the scanning team identified 161 drivers and 56 obstacles (more than one driver/obstacle per signal can be identified) (see Figures 4 and 5). Most drivers were identified in the societal dimension (49), followed by the economic dimension (38) and the technological dimension (25). Most obstacles were identified in the economic dimension (18), followed by the societal (16) and the political dimension (9).

Figure 4: Drivers of the weak signals



Source: Own depiction

Figure 5: Obstacles to the weak signals



Source: Own depiction

Social Dimension
In the social dimension, many signals were driven by peoples´ growing ability and willingness to deal with social media and collaboration tools. This driver is closely connected to the repeatedly named aspect that the younger generation is about to enter the business world, bringing with them new ways of thinking about (free) knowledge sharing, collaborating and inventing. Another mentioned driver in the social dimension is the spread of individualisation, which, as one effect among others, increases peoples´ ambitions to express themselves by influencing the design of products and / or to change the functionality of solutions and services according to their individual needs. Last, but not least, it was pointed out that there is a change in the way innovators and being innovative is regarded socially. Being innovative is becoming more socially desirable for a growing number of people.
Most obstacles described factors which could hinder the spread of open and collaborative innovation concepts. These could be thwarted by a lack of structure, lead, or mission, especially if people work together via the web and do not know each other personally. Also seen as potential stumbling blocks are a) the reluctance to participate in open innovation projects because of the necessary effort involved, b) the tendency that actively participating people often represent a extreme opinion, while some milieus are hardly represented (this is primarily relevant for social and public innovations), as well as c) concerns of idea-owners about possible idea rip-offs. From a global point of view, the digital gap (meaning that more people from industrialised countries have access to web-based collaboration tools than people from developing countries) was mentioned several times as a hindering factor.

Economic Dimension
The most relevant driver in the economic/industrial dimension was the increasing global competition for innovations. The pressure to innovate is rising due to ever-shorter product life cycles, growing product piracy, and the transition of industrialised societies into knowledge economies. The key question is: How can we develop better ideas, implement them faster and spend less money while doing so? Another economic driver of changing innovation patterns are changes in the work world: Flexible working patterns, outsourcing and the increasing number of professional freelancers foster and enable the emergence of new innovation concepts. Moreover, companies have started to realize the direct (money) and indirect (reputation) economic value of social and environmental innovations, so there is a growing interest in both these areas. Geographical changes in innovation patterns, in particular, the shift of innovativeness to developing countries, is driven by cost advantages and rapid economic catch-up in those countries. In addition, many economic obstacles were identified during the scanning process: Most frequently mentioned are high costs and poor cost-benefit ratios, as well as low monetary incentives for the participants.

Technological Dimension
From a technological perspective, especially new Web 2.0 applications are bringing about changes in innovation patterns, as they make knowledge sharing and collaborating easier and more affordable, also on a global scale. Furthermore, many new innovation concepts are expected to result from the upcoming technology wave (sustainability technology), and general technological progress, i.e. cheaper, more powerful and usable devices. One obstacle mentioned was that most modern electronic devices are designed for a Western setting only, e.g. for an environment where water and / power supply are taken for granted. Moreover, IT security gaps have been identified as a hindering factor.

Political Dimension
16 signals are politically driven: First of all, politicians try to influence the conditions under which innovation takes place, e.g. by promoting collaborations amongst domestic companies, or by providing financial support. Additionally, governments and governmental institutions increasingly invite people to participate directly in political decisions in order to counteract the growing disenchantment with politics. The obstacles pointed out refer to political frameworks for open innovation: If laws and regulations are not designed specifically

to handle the new innovation concepts, they may curb new ideas. Some new innovation approaches may not establish themselves due to a lack of political support.

Environmental Dimension
From an environmental point of view, the growing awareness of climate change, social grievances and the inefficient use of resources are driving changes in innovation patterns. However, new innovation concepts could fail for precisely these reasons if they turn out to be resource-inefficient or to produce tons of new waste.

Design Dimension
Some signals are also driven by design aspects, such as the increasing relevance of design and art for successful innovation in corporate and public structures, or the very active design community. On the other hand, the design dimension, meaning the way new approaches are designed, could also hinder new innovation patterns. Identified obstacles included the high demands in terms of time and required skills, as well as intransparent designs. Furthermore, the partly observable innovation hype in the design scene may lead to an oversupply with innovation communities. This may confuse or repel potential participants.

Indications & Wildcards

In the final paragraph, we want to sketch a few interesting indications of how current innovation patterns might change in the future (a more elaborated analysis will be conducted in the next work packages of the INFU project) with respect to:

- …where innovation takes place: Some weak signals indicate, e.g. that industries could be shifting their R&D location to emerging countries and that, in the future, more and more disruptive and breakthrough innovations could come from the Asian regions.
- … how innovation emerges: Quite a lot of weak signals show that corporations as well as public institutions are opening up to integrating other stakeholders in their innovation processes. However, there are also weak signals suggesting that corporations and nations will return to strictly closed innovation processes. Other weak signals indicate an increasingly strong effect of lifecycle thinking on innovation processes.
- …who is innovating: Weak signals show a growing acceptance of crowdsourcing platforms for R&D questions and innovation tasks. This would not only affect innovation, but also working patterns in Europe. Additionally, more and more people could soon be innovating on their own and for themselves with a variety of DIY toolkits, fab labs and open source/open design networks for 3-dimensional objects as well as highly complex products.
- ... under which conditions innovation takes place: One or two weak signals point to a development where companies still have to innovate in order to remain competitive, but can no longer count on a positive attitude towards innovation among customers. This could have an effect on how innovation is communicated or rather is not communicated (innovation fatigue). Other changes in the way we innovate could be triggered by a shift in public funding: either by a shift from supply-driven to demand-driven funding of innovation, or by a radical privatisation of national innovation funding.

As mentioned, a detailed qualitative analysis of the identified weak signals and wild cards and an elaborated clustering and mapping of all academic concepts and weak signals based on specific criteria is to follow in the next step of the INFU project.