Innovation Futures Scripts

Nodes of change in innovation patterns emerging from the explorative dialogue on the 19 INFU Visions

Deliverable D 3.1 (WP3)

Version, 30th October 2010

The INFU Project is funded under the Socio-economic Sciences and Humanities

Authors: Elna Schirrmeister[1], Philine Warnke[1], Karl-Heinz Leitner[2]

Consortium partners:
Austrian Institute of Technology (Austria)
Fraunhofer Institute for Systems and Innovation Research (Germany)
Strategic Design Scenarios (Belgium)
Z_punkt The Foresight Company (Germany)

Project Coordinator:
Karl-Heinz Leitner, Austrian Institute of Technology

Contract No. 225229
Starting date: 1 June 2009
Duration: 32 months

[1] Fraunhofer Institute for Systems and Innovation Research, Competence Center Innovation Management and Foresight,
[2] Austrian Institute of Technology, Foresight & Policy Development Department

Table of Contents

Additional Documents

INFU Mini-Panel Documentation Waste Based Innovation

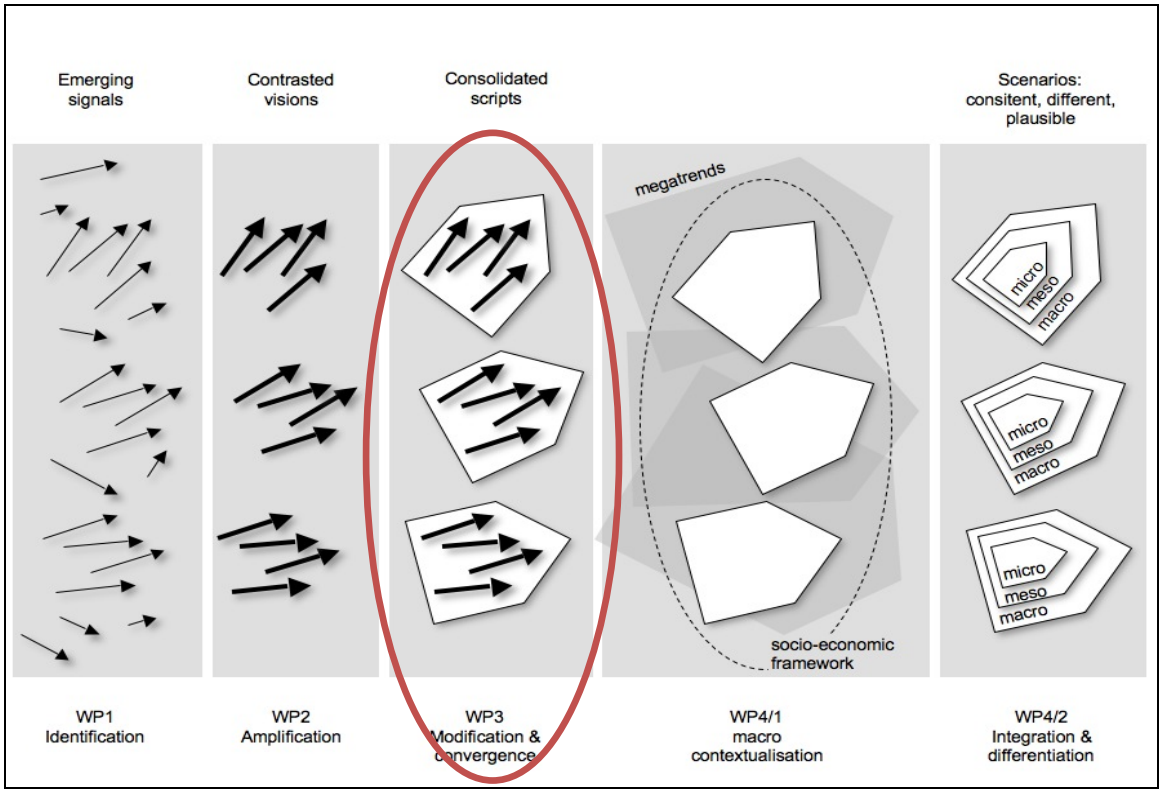
INFU Mini-Panel Innocamps 2030

The world of Innovation in 2030, The shape of organisations to come

1 Introduction

The aim of the INFU foresight project[1] is to develop and discuss the implications of future innovation patterns. Innovation patterns are defined as the underlying principle how the innovation process is organised. Although new innovation models such as open innovation, soft innovation, design innovation or user innovation have been discussed intensively in recent years, there is little systematic exploration of possible future innovation landscapes and their implications for economy and society.

The project is progressing in a tailored series of dialogues starting from a collection of signals for change and ending up with a few distinctive scenarios of future innovation patterns. In the previous workpackage[2] the set of 19 contrasted visions on possible innovation futures listed in table 1 had been generated from 67 signals of change. The objective of WP 3 was to identify the critical nodes of change in innovation futures on the base of an extensive expert and stakeholder dialogue on these visions as depicted in picture 1.

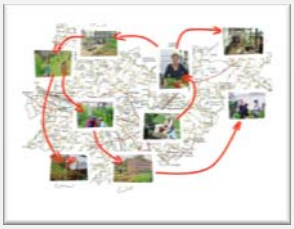


Picture 1: INFU Workplan

For the purpose of explorative dialogue a short movie was generated for presenting the 19 visions and their emergence from the signals of change. The dialogue involved two main elements the **INFU-online-survey** and **structured qualitative interviews**. Findings from these steps were synthesised in an **internal workshop** with the project partners. This synthesis was the basis for the selection of the "nodes of change" in innovation futures and set-up of mini-panels for deepening these scripts. The outcomes of the dialogue phase form the base of the INFU scenario development in Workpackage 4.

[1] See also www.innovation-futures.org for further information on the project, deliverables and the project structure.
[2] cf. Deliverable 2.1 INFU Visions

In this report we will first sketch the three steps of the dialogue individually and then give an overview of the selected scripts and the findings of the mini-panels.

Vision	Description within INFU Video trailer
Open Source Society 	What if open source development is no longer limited to software development but becomes an all compassing innovation pattern? Many products and services are provided by people contributing bits and pieces to various technological and social innovation projects. Open source business models and coordination mechanism abound.
Virtual-Only innovation 	What if many innovations would be enjoyed only virtually? Virtual-Only products satisfy human appetite for newness. They are displayed in virtual galleries for public perception or projected into homes and offices for individuals on demand. Most of these products are never materialised.
Negotio-Vation 	What if innovation becomes publicly negotiated? Companies advertise for innovation proposals to citizens, competing to get 'innovation credits' from them in order to get approved the development of the new product.
Innovation on request 	What if companies generate most innovations on special request from user communities? Together with sociologists, designers and developers communities of users develop innovation scenarios and sell them to companies.
Public Experimentation 	What if experimenting aligned social and technological innovation would be at the core of successful innovation systems? Public authorities strive to foster a permanent stage of social experimentation through a loosely connected network of local bottom-up projects. Enablers for collective experimentation such as innovation toolkits form the critical infrastructure for public experimentation.

No-innovation

What if innovation fatigue takes over and No-Innovation is en-vogue? The innovation rush is finally slowing down. Product cycles are becoming longer again. For market success, unchanging quality is more important than ever new offers.

Innocamps

What if innovation camps, where people gather for a few days to innovate together, become widely established as a means of problem solving? Innovation camps are used by companies, public sector and civil society to solve problems from high-tech challenges to neighbourhood facilities. Most people do regularly join innovation camps.

90% Innovation

What if innovation is primarily directed at the "other 90%" of the world population living in poverty? Extreme low cost/high innovation strategies prevail. Rich world companies struggle as they lack the competences and culture required. Innovators from today' emerging markets do much better due to their longstanding experience.

CIY – Create It Yourself

What if fabrication laboratories for everybody with flexible manufacturing equipment, become widely available and allow people to produce ever more products themselves? Self-production of personalised objects is the standard way of producing commodities directly at home or in "create it yourself shops/malls" with optional professional support. Companies just deliver materials, components, equipment and design tools. Brands do hardly play a role any more.

Innovation Imperative

What if the current emphasis on innovation and creativity for designers, programmers and engineers spreads to all workplaces? All employees from the janitor to top management are constantly involved into innovation activities. Creativity is part of any jobs daily routine and is key in performance measurements. Part of the job is to redefine the job it-self.

Innovation marketplace

What if companies no longer innovate themselves but fully externalise innovation to an open innovation marketplace? Nomadic innovators bid on innovation tenders and contests in constantly changing teams. They gather in co-working spaces some of which are top-favourite employers for creative people.

Innovation Campus

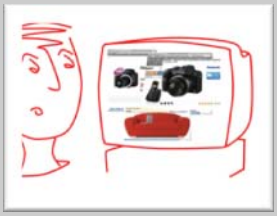
What if companies would collaborate in joint innovation places? Independent innovation plants will rent large open spaces for companies to settle their innovation staff with private areas and all sorts of collaborative facilities in between.

Darwin's Innovation

What if companies use digital systems to randomly create and test innovation variants before selecting the "fittest" for further development?

Enormous amounts of variants are tested often with an unexpected outcome. Design, creativity and consumer research loose relevance. Engineers dream of ultimately simulating the end-user and thus fully automate the innovation process.

Web-Extracted Innovation



What if we scan the internet for ideas and automatically pick the ones that best answer to current customer needs? Sophisticated semantic web-filters track changes in consumer preferences and new ideas in real time, and automatically extract innovations with outstanding market potential.

Innovation meets Education

What if innovation skills would be high on the education agenda right from kindergarden? Children are motivated to maintain their "discovery spirits" and learn how to question facts and think things differently. Learning is project oriented with a high emphasis on bricolage. Innovation becomes something that is taught as a matter of course, just like the ABC.

Relocated Innovation

What if the bulk of successful and disruptive innovations were to come from today's emerging markets? The West adopts the role of a follower and has to face products primarily designed for different cultural context. Western companies wishfully look to Asia, often with the help of industrial espionage. Creative people migrate to the new innovation hot

	spots in Asia and send back their money home to the US and Europe.
Waste-based Innovation 	What if the principle of “Waste equals Food”/”cradle to cradle” would be widely adopted? Instead of raw material, databases with used components and materials serve as a starting point for innovations. The whole world becomes one eternal circle. Everything that is made of something is part of making something.
Laboratory stores 	What if stores were to become laboratories where companies and customers co-develop innovations? Laboratory Department Stores would offer theme worlds such as “Family Life” or “New Sports”, where customers can experience unreleased products, individualize existing goods and in return get access to products fitting better their needs and desires.
City driven innovation 	What if cities became stronger actors in the field of innovation by proactively pushing for needed solutions? Cities could take on the investment risks for the development and implementation of needed innovations and use this as a new economic factor by patenting and marketing their solutions to other cities.

Table 1: INFU Visions as described in the INFU-trailer

2 The INFU-Online-Survey

2.1 Participants

The online-survey was set up to support the qualitative interviews. Accordingly, participation was limited to a restricted circle of people with special expertise in relevant aspects of innovation or candidates for an interview. Participants were asked to type in their e-mail-address and to give a few basic characteristics on their background.

In total 56 experts participated in the survey. The majority of the participants were researchers, consultants and creators but also some people from industry and two policy makers took part. The focus was mainly on Europe but one expert from China, one from the USA and two from Russia answered the survey.

The specific interests of the experts involved in the survey covered all types of innovation from products and process innovation over social and service innovation to public sector innovation.

2.2 Overall Feedback on the Survey

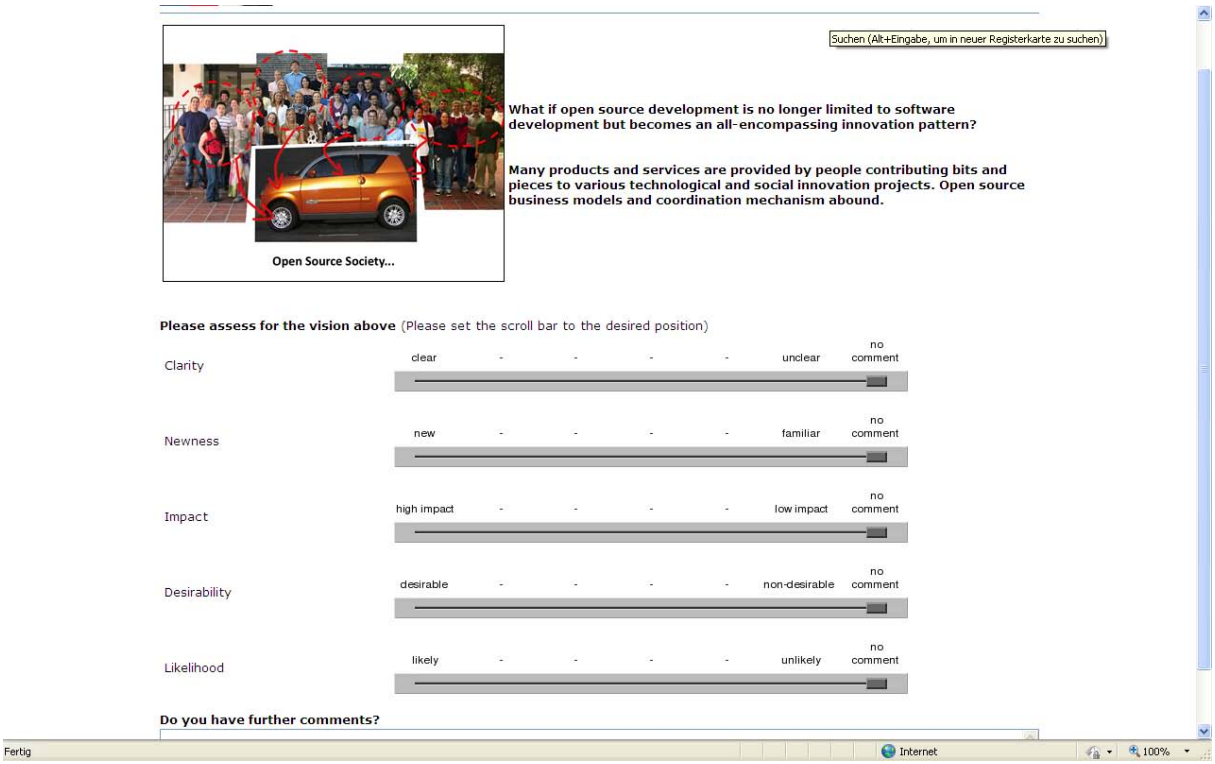
The overall feedback from the participants was extremely positive. The experts from the innovation research community enjoyed the movie and were highly motivated to give their opinion on the visions shown. The online-survey was also tested with people having no professional interest in innovation. However, it turned out difficult to design a movie and a questionnaire fulfilling the requirements of experts and “lay people”. To keep the movie and the presentation of the vision in the survey short many key words, familiar to experts from the field, were used, that would have needed further explanation for non experts in the field of innovation. Accordingly, response from non-professional participants was slightly less positive.

2.3 Structure of Questionnaire

As shown in picture 2 the questionnaire covered assessment of the following five aspects for each of the 19 visions:

- Clarity
- Newness
- Impact
- Desirability
- Likelihood.

Participants were asked to assess each aspect on a six-level scale.

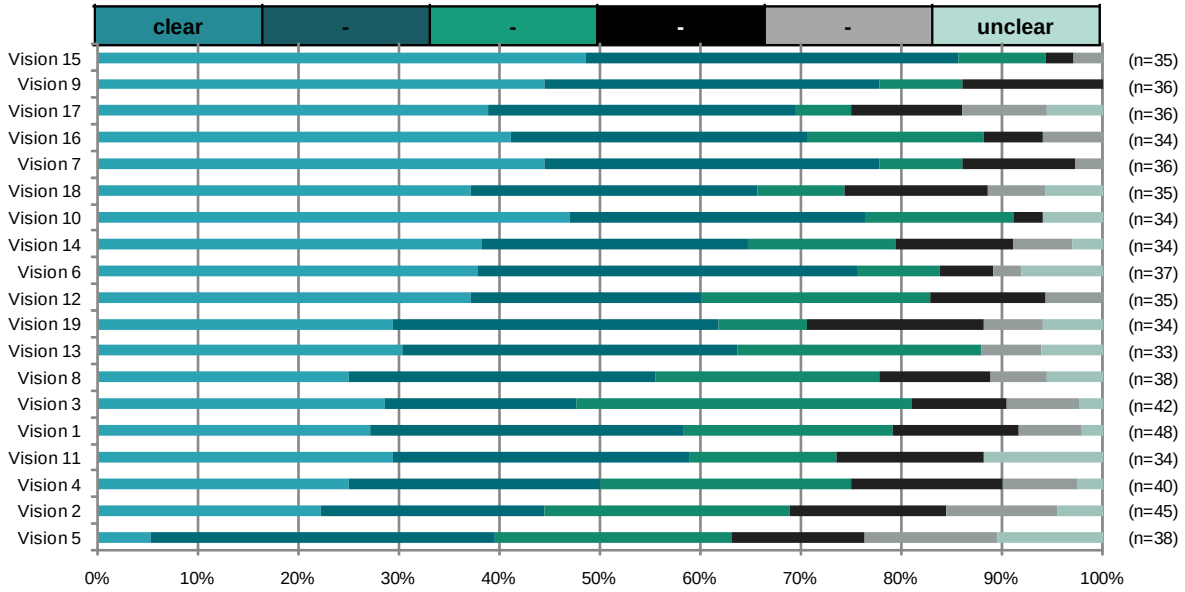


Picture 2: INFU Survey Questionnaire

2.4 Outcomes

Clarity

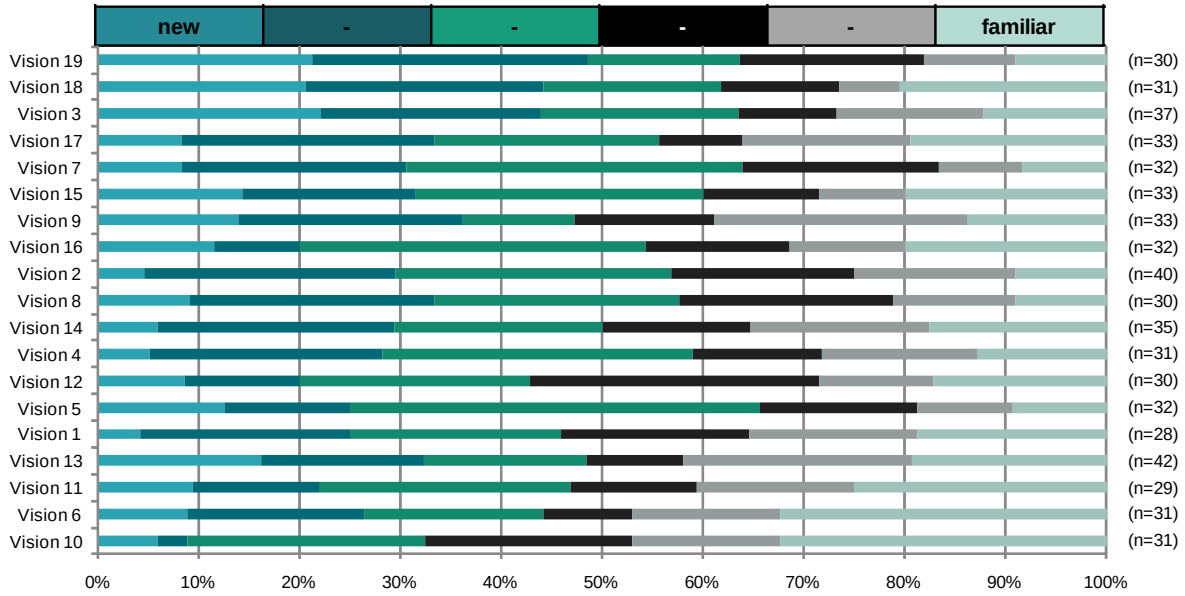
The majority of the participants considered the visions as quite clear with the exception of Vision 5 (public experimentation) which was considered unclear by several respondents. This result reflects the high degree of expertise of the participants. Furthermore the extensive pretesting of the questionnaire greatly enhanced the clarity of the visions.



Picture 3: Experts' Assessment of Visions' Clarity

Newness

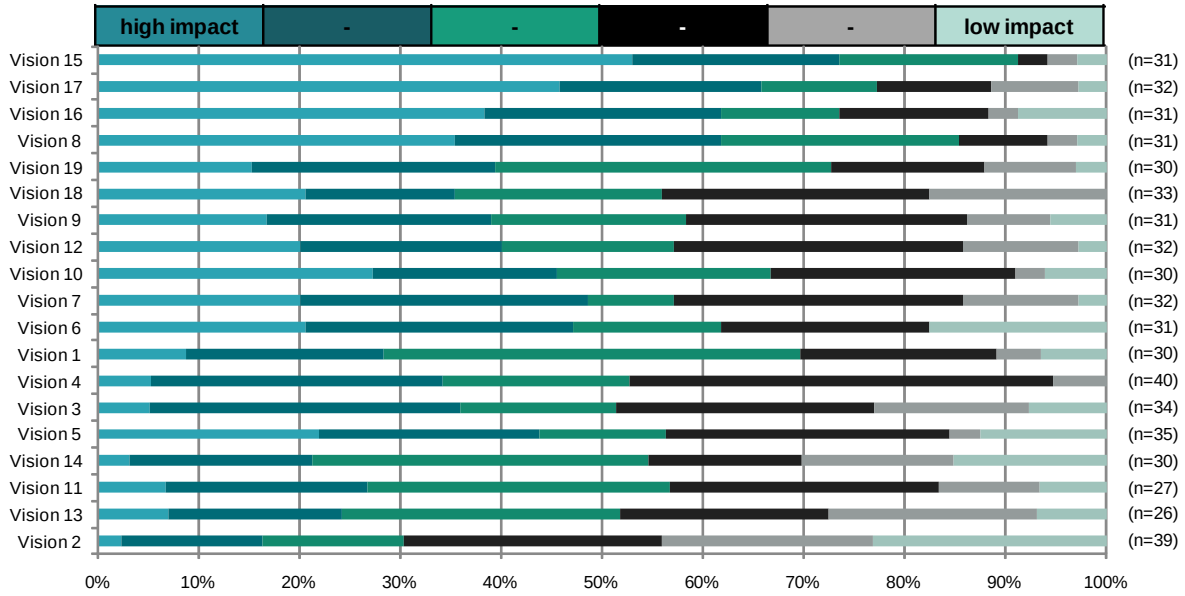
Concerning the newness of the visions there is no consensus among the experts. This result is quite striking since all of the experts considered the visions to be clear, but still they validated the newness quite different. Except for vision number 5 (public experimentation, evaluated as less clear that all the other visions) and vision number 10 (innovation imperative) all the visions showed a similar distribution of new and familiar at the same time. These results show that by using weak signals from diverse sources of information it was possible to generate visions covering a wide range of different perspectives and integrating the views of various research communities.



Picture 4: Experts' Assessment of Visions' Degree of Newness

Impact

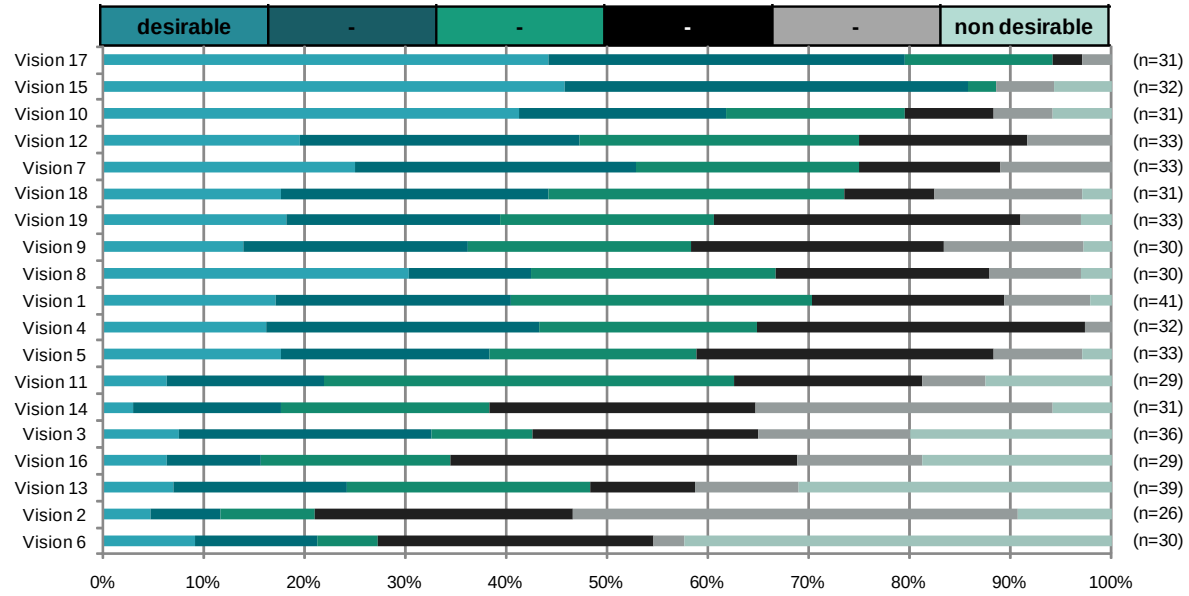
The impact of the 19 visions presented, was evaluated quite differently even though there seems to be no consensus among the experts on the expected impact of the visions. Visions focussing on the way the internet is integrated in the idea generation (Darwin´s innovation, 13; Web-Extracted Innovation, 14; Innovation marketplace, 11) seem to be considered of low impact, while a high impact seems to be connected to the location of the innovation processes (Relocated Innovation, 16; 90% Innovation, 8).



Picture 5: Experts' Assessment of Visions' Impact

Desirability

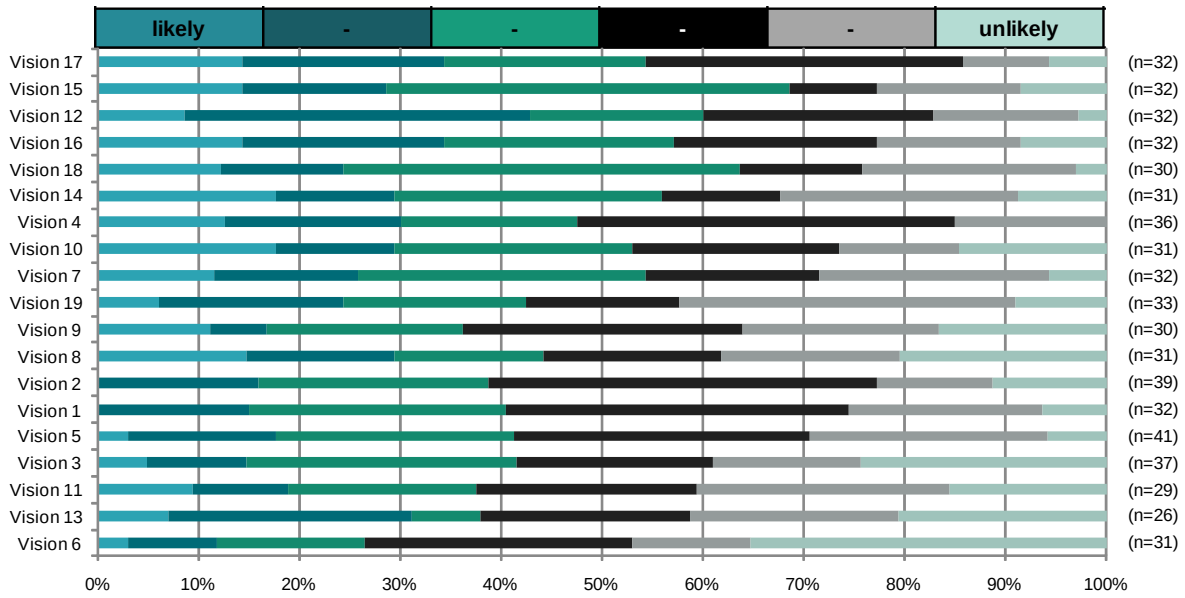
The greatest differences among the 19 visions can be found when looking at the desirability of the visions. 7 out of the 19 visions are evaluated as desirable (to some extent) by more than 70% of the experts. Out of these 7 vision “waste-based innovation” (17) and “Innovation meets education” are considered “desirable” by almost everybody. Two visions are on the contrary evaluated as “non desirable” by more than 70% of the participants: No-Innovation and “Virtual-Only innovation”. The remaining 10 visions can not be considered as evaluated “desirable” or “non desirable” by a solid majority. Participants disagree on the desirability of these visions.



Picture 6: Experts’ Assessment of Visions’ Desirability

Likelihood

Looking at the evaluation of the likelihood of the visions there are no big differences between the 19 visions. The likelihood of all 19 visions seems to be quite uncertain. No vision is considered “very likely” by more than 20% of the experts. Two of the visions are considered to be very unlikely (Negotio-Vation, 3; No-Innovation). Both visions are “negative” visions describing a slowing down of the innovation process. The experts who participated seem to be convinced that the innovation dynamic is not going to slow down but instead is going to increase even more.



Picture 7: Experts' Assessment of Visions' Likelihood

Summarising the results of the survey it can be pointed out, that the 19 visions described were received very positively by the experts. They created high interest in the project and in further interaction and participation. This interested was not only generated by the attractive presentation of the visions but was due to the clarity of the description and the newness of at least some of the visions to each of the experts. The visions reflected the uncertainty of the future developments and the unclear impact and desirability of many visions.

3 The Expert-Interviews

The interviews were carried out by different people of the project consortium, therefore it was essential to use a structured outline for the interviews to ensure comparability between the interviews. In most cases the expert watched the movie of the 19 visions and filled in the survey in advance to the interview. In some cases pdf files were sent to the experts or paper versions handed out during the interview. In the interview the experts were asked to explain their assessment of the visions from the online-survey. By adding this qualitative information to the results of the survey a valid interpretation of the results was ensured.

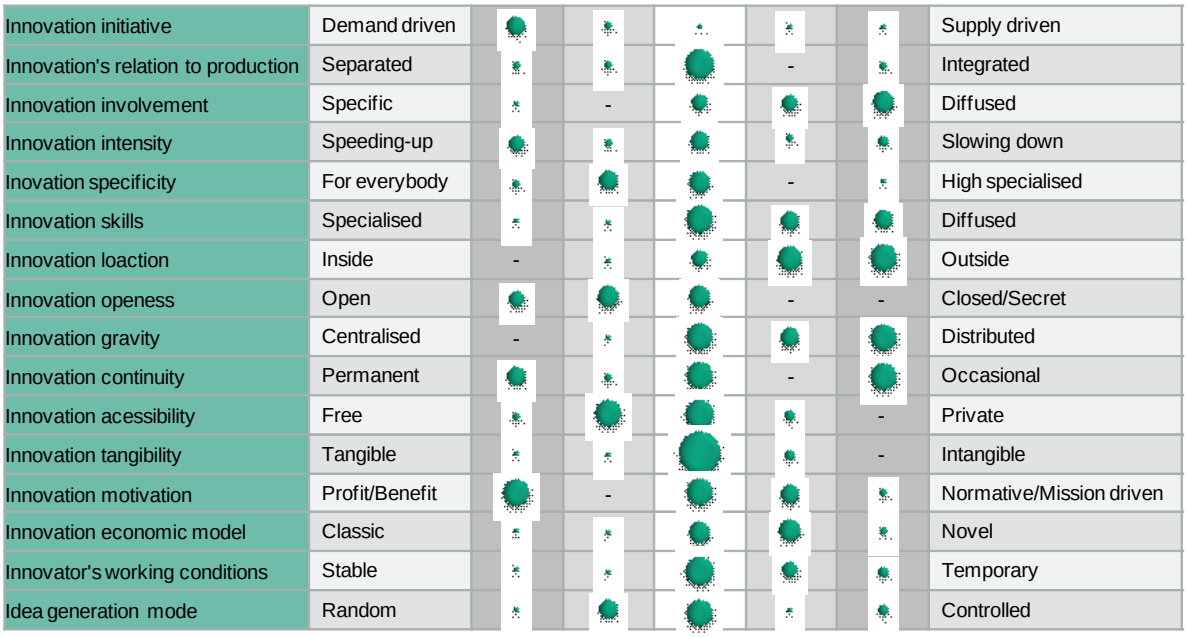
In addition to the assessments given in the survey the experts were asked to point out missing aspects, to suggest a clustering of the visions. Finally, it was discussed which of the visions were most interesting and should therefore be considered in more detail within a "mini-panel". In total 25 experts were interviewed by phone or personally.

To facilitate the overall interpretation and the drawing of conclusions from the interviews, the interview results were sorted by vision and merged into one document.

4 Assessment of Coverage

To make sure that no relevant aspects of change in innovation patterns indicated by the signals of change are being lost in the process the project team evaluated the 19 visions according to their coverage of the "dimensions of change" defined in Workpackage 1. While for some

dimensions of change the two opposite parameter values were covered within the 19 visions. This did not prove true for all dimensions of change identified. The potentially missing opposite developments will therefore be addressed in the respective mini-panels. In addition the dimension of change will be a starting point for the scenarios developed later on in the project.



Picture 8: Coverage of Dimensions of Change

5 Synthesis

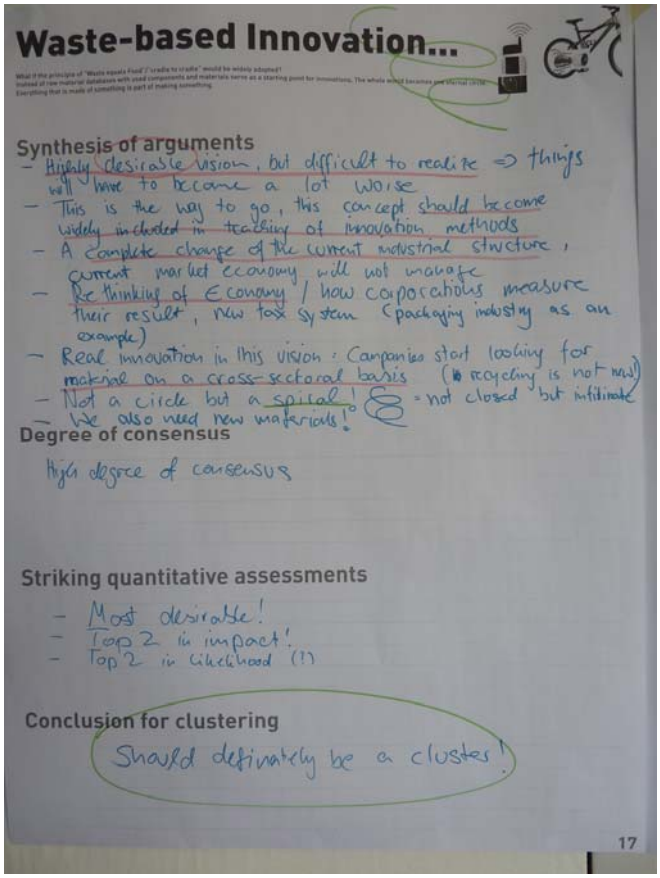
5.1 Vision Level Assessment

The synthesis of results from survey, interviews and coverage assessment was carried out in a one-day meeting of the INFU partners. In a first step the visions were assessed individually: For each vision the results of the survey and the interviews were revised four aspects extracted from the findings:

- Synthesis of arguments
- Degree of consensus
- Striking quantitative assessments
- Conclusion for clustering

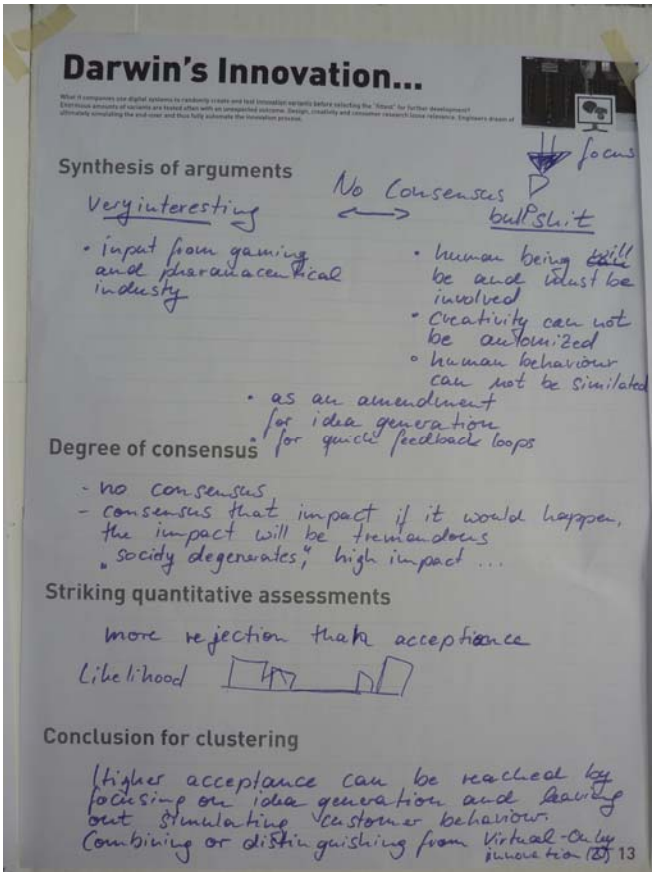
The process during the workshop proved to be very structured and effective. While for some visions the results were quite clear and it was easy to draw a conclusion for the further development in the project, extensive discussions were generated for some visions. two examples are given below.

"Waste-based Innovation" was assessed both in the survey and interviews as a highly desirable but very uncertain vision. During the interviews the experts stressed the high potential impact of this vision but mentioned also, that there were still tremendous obstacles on the way. There was striking consensus among the experts concerning this vision and therefore it was decided to set up a mini-panel focused on this vision.



Picture 9: Synthesis Waste-Based-Innovation

The vision "**Darwin´s Innovation"** was quite provoking. It received highly controversial assessment by the experts ranging from "very interesting" to "bullshit". The qualitative interviews revealed that the vision was rejected because of a perceived insult to human creativity which was highly valued by most respondents. At the same time a small group saw huge opportunities arising from automatised support to creative activities. Some of the experts assessed the impact of the vision in the case of realization as tremendous (the vision ranked top 2 in impact) which implies the need for policy, industry and society to prepare for possible risks and arising opportunities. It was therefore concluded that this vision indicated a relevant critical aspect change in innovation patterns that should be explored in more depth through further INFU activities.



Picture 10: Synthesis Darwin's Innovation

As described for the two examples all visions were discussed in depth.

5.2 Identification "Nodes of Change" in Innovation

In a next step the visions were clustered on the base of the experts' suggestions (cf. picture x for an expert's proposal) and previous analysis of the individual visions.

Picture 11: Cluster of visions suggested by expert within interview

In a final assessment of these clusters nine scripts of potential nodes of change in innovation patterns were singled out to be followed up in the further work of the project. The decision was based on different types of arguments. Some visions such as the "Innocamps" and "waste

based innovation" were taken up because they received overwhelmingly positive response and a high level of interest. Others such as "automatised innovation" and "web extracted innovation" were selected because of their controversial assessment, which indicates possible demand for clarification. Finally, visions with negative implications such as "relocated innovation" were taken up because of the potential relevance for policy measures and need for increased awareness. All scripts are formed by a set of 2-5 visions to be considered. The full list of selected scripts of hotspots of change along with the key arguments for the selection is given in table 2 below.

Node of Change	**Associated INFU Visions**	**Reasoning for Uptake**
Citizens role in innovation governance	Negotio-Vation, Innovation on Request	Change towards wider involvement widely recognized but direction is controversial
Automatising innovation	Darwin's innovation, webextracted innovation	Very controversial, negated by some, but strong signals for massive change, danger of "blind spot"
New spatial distribution of innovation – innovation chain management	Relocated innovation, 90% innovation	Very high impact both in positive and negative terms. need for action
City driven systemic innovation	City drive innovation, social experimentation	High recognition of demand. Considered as possible way of addressing sustainability challenge. Opposite assessments as to realisation patterns (full open source vs. top down government driven)
Innocamp Society	Innocamp, open source, CIY, Co-working-house, *social experimentation*	High number of signals pointing towards opening up of innovation patterns. Still uncertainty as to extent of applicability. High impact some radical implications on economy.
Ubiquitous Innovation (including dark sides)	innovation imperative, public experimentation	High relevance for companies. Potential negative impacts such as too high pressure on employers restricting creativity repeatedly pointed out. Wider implication if interpreted on a societal level as suggested by

		experts.
Waste Based innovation	Waste Based innovation, CIY, open source	Strikingly high desirability widely recognised. At the same time doubts on realisation. Many obstacles pointed out. Economic consequences unclear.
Social experimentation	public experimentation, open source society, city driven innovation	Social innovation widely pointed out as highly relevant, also by academic debate (see INFU deliverable). High implications for policy and public sector.

Table 2: Nodes of Change in Innovation patterns identified by INFU

A special proceeding was decided for the vision of “Innovation meets education” which received high levels of desirability and impact as well as many comments regarding obstacles and need for action. The relation of innovation and education was considered highly relevant for all future innovation patterns. Rather than setting up a specific panel on education (which would be out of scope for the INFU project anyway) implications for education will be integrated for all nodes of change in the further synthesis and scenario building.

6 INFU Session R&D Management Conference

At the R&D Management conference in Manchester in June 2010 the INFU findings were presented and discussed with an international audience from research and business. Three small groups pointed out relevant implications for three visions that were considered by them as most interesting. These findings will be fed into the scenario building along with the Mini Panel findings. An in-depth documentation can be found in the Annex of this document, Table 4 summarizes the results.

Selected Vision	**Key aspects to be considered as pointed out by the working group**
Innovation Campus	different motivations to join the Campus, number of members required, implications for organisational set up of companies and universities (special sub units may be required fro participation), change of organisational culture, citizens’ attitude towards the campus
Open Source Society	new underlying economic model and socio-economic contract, motivation to innovate in this model, implication for current power relations, different forming of status and identity, more psychological flexibility required from everybody, more self-regulation, how to prevent inefficient solutions (environmental impact!), minimum entry requirement, provision of the hard parts, open source

	infrastructure that needs to be in place, stepwise uptake required, way out of “patenting mess” required
Innovation meets Education	Need for new mind set emphasising creativity and curiosity, new forms and tools for acquiring new competencies, more emphasis on cooperation and communication

Table 3: Aspects highlighted by Manchester Working Groups

7 INFU Mini-Panels

7.1 Mini-Panel Formation

For each hotspot a mini-panel was formed to spell out the vision in more detail and indicate drivers and barriers to realise the vision. The mini-panel coordinators were appointed by the consortium on the base of the expertise emerging in the interviews. The coordinators were then involving larger groups of 5 – 15 people Table 3 gives an overview of all mini-panels and their coordinators.

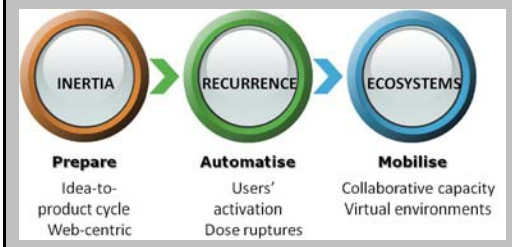
Node of Change Covered	Coordinator	Organisation/Country	Approach
1 Citizens role in innovation governance	Anders Jacobi, Denmark	Danish Board of Technology, Denmark	Visioning session among CIVISTI consortium (Kopenhagen)
2 Automatising innovation	Patrick Corsi, Belgium	Independent Consultant	Four Interviews with key companies (IBM, EPFL, INSEAT ISTIA innovation) and group telephone discussion
3 New spatial distribution of innovation – innovation chain management	Anna Trifilova, Russia and Bettina von Stamm, UK	Professors Innovation Management; Innovation Leadership Forum	Three seminars in the framework of international conferences with researchers and company representatives (Nürnberg, London, Exeter)
4 City driven systemic innovation	Daniel Kaplan, France	FING - association pour la Fondation Internet Nouvelle Génération The Next Generation Internet	Workshop envisioning the “open innovation city” with actors from city councils

		Foundation	and companies involved with city level innovation (Paris)
5 Innocamp Society	Dominik Wind, Germany	Until we see new land (Innovation camp Start-Up)	Workshop with stakeholders of future innovation camps (Berlin)
6 Ubiquitous Innovation (including dark sides)	Rolandas Strazdas Global Creators, Lithuania	Professor innovation management, company consultant	Creative session with innovation management experts (Vilnius)
7 Waste Based (open) innovation	Jay Cousins, US (Germany)	Founder of Open Design City Berlin	Workshop in Berlin with stakeholders and key actors from cradle to cradle community (Berlin)
8 Social experimentation	Stéphane Vincent, France	La 27e Région	Drafting of Citizens Agency in a visioning session with actors in social innovation. Brussels

Table 4: INFU Mini-Panels

7.2 Mini-Panel Findings Overview

Each Mini-Panel developed a vision sketching a desirable "innovation future" outlined the main arguments behind their vision and listed drivers and barriers for the vision to become reality. Table 5 gives an overview of the core features of the eight visions, the panel findings are documented in detail in the Annex.

Vision	Key Features/Issues	Drivers/Enablers	Barriers
Automatised Innovation 	Standardised processes leading from idea to product based on: • Explication of tacit knowledge • Standardisation and modularisation • Evaluation procedures • User Activation procedures	Immersive technologies and platforms Adequate Business Models	Inertia of organisational culture Command and control management Closed systems Passive behavious
Deliberative Innovation	Two main deliberative innovation types: • Innovation driven by	Political will Deliberative Innovation is	Lack of political will Inadequate

	citizens ideas that are actively collected • Innovation driven by societal challenges initiated by citizens panels	more relevant, more democratic, based on a greater diversity of knowledge and more fit for purpose	formats of involvement such as lack of visibility of impact, bad organisation
Innovation Chain Masters 	Innovation is globally distributed and happens where it is needed. Innovation mindset and skills are widespread in particular among leaders. Actors with special skills facilitate coordination of innovation chain elements (rather than pure self-organisation).	Values and lifestyles (generation Y) Need to address societal challenges	Lack of adequate mindset on leadership level. Lack of today's organisational capability Lack of adequate education
Open Innovation City 	A city-level Innovation Ecosystem that: Enables all inhabitants to co-produce and enhance urban services Provides shared platforms, spaces and tools for experimentation including open data and fab-labs	Information platforms Need for systemic and breakthrough innovation to address societal challenges	Danger of unequal access and abuse Lack of coordination may lead to suboptimal solutions Lack of reliability and stability due to continuous experimentation
Innocamp Society 	Innovation Camps: functioning as protected spaces for experimenting collaborative problem solving, participatory decision making and learning Physical gatherings in different formats and durations	Collapse of traditional systems New collaboration formats and connecting technologies Pressure to address societal challenges	Traditional Education Passive Consumption Attitudes Vested interests in today's paradigm
Waste Innovation	Three basic paradigms: Access culture Distributed network providing universal access to innovation knowledge and tools Surplus ecosystem A parallel social system that treats waste as resource	Crowd/sourcing-funding/creation Changing values systems Decentralisation of knowledge Hyperconnection	Legacy Control Systems and mindsets Legal hurdles Complexity of existing material flows Lack of

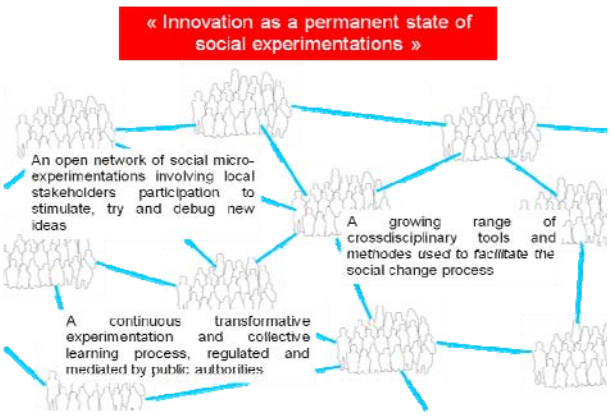
	On demand economy Waste is significantly reduced through producing only in accordance with demand	Depleting resources Open source culture Fab-labs (3d printing) cradle2cradle philosophy Upcycling	necessary skills (e.g. redesigning)
Widespread Creativity 	All actors in all value creation steps contribute creativity, no longer artists and designers only. Managers become facilitators. All professions recognised as "creative" High emphasis on relational innovation	Recognition of the role of Creative industries Competition with low cost countries EU Lisbon Strategy Management theory and progressive businesses	Widespread narrow understanding of innovation Traditional education Lack of resources Fears of loosing control because of freedom required for creativity
Participatory Innovation 	New culture of innovation within a characterised by: Availability of flexible interdisciplinary professional structure functioning as "innovation mediator" aligning social and technological innovation through stakeholder dialogue. Operating on a meso-level embedded in infrastructure. Wide range of hybrid business models replacing producer/consumer duality Participatory innovation as pillar of democracy	Need for context tailored solutions Macro level change towards economy of contributions Blurring of boundaries innovation, production, usage stages Need to define adequate level of participation.	Abuse of participation for outsourcing of social services creates danger of participation fatigue and overload

Table 5: Overview of Mini-Panel Findings

7.3 Mini-Panel findings crosscutting observations

Each vision is addressing distinctive phenomena and issues and representing different stakeholder perspectives. Nevertheless there are some striking aspects across all mini-panle findings:

- All visions are incorporating fundamental changes in the mechanisms mediating between innovation demand and innovation supply. In most cases, the role of companies as dominant broker between needs and solutions is seen to be shrinking and more direct involvement individual or (more often) collective innovation users is described. A wide variety of hybrid value creation business models is being proposed.
- The issue of finding the right level for mediating and enabling platforms between innovation demand and innovation supply is addressed in several visions.

- Most visions describe a change in the nature of the outcomes of innovation. Forming of identities and relations as well a social innovation are widely expected to gain relevance as innovation target. Immaterial aspects of innovations are of growing importance.
- Most visions depict the need to address societal challenges and in particular environmental issues as a key driver of change not only for the target of innovation but also for innovation patterns.
- Innovation skills are thought by many to be spreading from a few professions across society.
- Changing values are seen as a powerful driver of change in a number of visions.
- Fab-Labs and 3d printing facilities are mentioned in several visions as key facilitators.
- The failure of today's education systems to underpin creativity and innovation skills is mentioned as a critical barrier in several visions.
- Some visions describe fundamental changes in the macroeconomic environment such as "economy of contributions", "on demand economy", "surplus ecosystem" "learning intensive economy".
- The need to find a balance between creativity and freedom on the one hand and structure on the other - which are both thought to be key for successful innovation – is mentioned several times

8 Annex Mini-Panel Documentation

R&D Management Conference INFU Session

Discussion Panel on "Innovation Futures in Europe: A foresight exercise on emerging patterns of innovation" organised within the R&D Management Conference 2010, 1-3 July 2010, Manchester, University of Manchester

Within the annual R&D Management Conference, the INFU team organised a Workshop on Innovation Futures with the aim to discuss some selected innovation visions with selected expert from industry, consultancy and academia. The annual R&D Management Conference is the largest international conference dealing with R&D Management and regularly has participants from around the globe. The 2010 conference was organised at the University of Manchester, for more information see also the conference webpage: www.RnDManagement.info

The workshop was organised by Philine Warnke and Karl-Heinz Leitner, both from the INFU team. In the workshop first an overview of the INFU project and its findings on Innovation Futures was presented by Philine Warnke (ISI) and Karl-Heinz Leitner (AIT). This presentation was followed by a presentation from Bettina von Stamm and Anna Trifilova, which have co-authored the book on "The Future of Innovation", a book which presents views on the Future of Innovation collected by about 80 experts from academia and industry (see also www.thefutureofinnovation.org) in the course of the organization of the 2009 years annual ISPIM Conference in Vienna organised under the key topic of "The Future of Innovation".

After giving an overview of the different approaches, perspectives, scenarios and open questions related to the future of innovation, the workshop participants selected three of the 19 innovation visions which were discussed in more detail subsequently.
The "Innovation Campus", "Innovation Meets Education" and "Open Source Society" were selected and discussed within smaller groups.

Innovation Campus

Within the INFU team the innovation vision Innovation Campus was described as depicted below.

Picture 8.1: Innovation Campus Vision

The following important topics and question in relation to the likelihood, perspectives and prerequisites that this innovation gains broad popularity were discussed:

- The question about who is in and who is out is central that an innovation campus becomes successfully. For instance, Pepsi and Coke will probably not join a campus related to food, etc., if yes, then they would hide everything. Thus, new kind of clusters have to emerge in such a campus, which are highly flexible and open, so that the idea of a campus can work; otherwise we will end up with a lack of renewal within the campus, and on the long run inertia and inflexibility. Generally, groups favor that companies from different industries co-operate.
- The question of the number of the members within a campus was addressed as well by the participants. As companies will have to invest (in relationships, trust, etc.) there arises always the question of Intellectual Property, the business models, etc., at the end the investments must generate returns.
- The following requirements are considered as important:
  - One must have different possibilities and layers to co-operate.
  - Companies have or will need to create more autonomous units, this will at the same time to more blurred and fuzzy boundaries of firms. The idea is that sub-units from firms co-operate together, go in their home-base back, etc. Moreover, partners have to define their own rules.
  - It may be difficult for regional operating SMEs to get involved in a campus, this is probably more interesting for globally thinking and acting firms.

- The idea of a campus us “territorial related” and hence some regional values are an inherent feature.
- An innovation campus should not become a closed shop on the long term, it requires a dynamic arrangement, and experimental environment, space, the question of in and out, evolving and continuing development
- This philosophy has to be “fostering real-life-project-based learning.”

- The innovation campus model has also some implications for participating universities and research centers:
  - Units of universities, etc. have to be integrated in a highly flexible way, not as traditionally in a campus, individual researcher work there for a while, etc.
- Citizens may also perform different role, e.g. in MINATEC[3] citizens are against the development, etc. One the one hand we have to involve them, one the other hand, this is not always easy, there is resistance.
- Role of customers: yes, we have them to include, but not necessarily as co-developers.
- To sum up, the main barriers are:
  - Participants have to agree on common objectives, this requires a radical change in behavior.
  - Some may even participate for PR reasons, however, this should avoided.

Innovation meets Education

Picture 8.2. Vision – Innovation meets Education

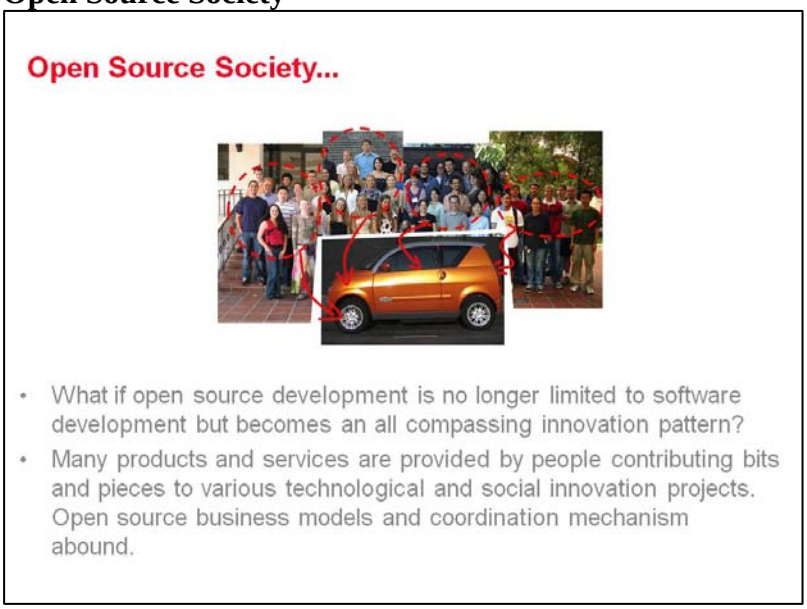
[3] MINATEC is also one of the weak signals collected within INFU, see also D1.2.

A provoking question related to this innovation vision was described as: “The integration of education and innovation systems is already on the agenda of national and EU considerations and efforts. What if efforts to integrate innovation culture and education would start in primary school? Children would be taught innovation skills as a matter of course, just like the ABC.”

The workshop participants discussed:

- New tools, methods and approaches are required, so the general meaning of the discussion, amongst others participants argued for:
  - We need a new mind set!
  - Do not kill creativity and curiosity by not answering “Why-questions”!
  - We need more social interaction!
  - We have to learn how skill combinations can be applied.
  - Educators need to be scanners.
  - Living lab: create it in your school (crowdsourcing)
  - Create your own business and work on it.
  - Learn from doing should be a basic philosophy.
  - Identify kids‘ problems and try to solve problems together.
- Quality and skills kids need to receive are:
  - Skills = cooperation & creativity.
  - Appreciation= each other helps creativity happy to express it.
  - Communication skills are crucial.
  - However, rules can be broken.
  - Having discipline is though at the same time a prerequisite to realise and implement something
  - Problems should be solved jointly in a community
  - We have to recognize the target audience and the importance of peers.
  - Do not be afraid & be brave”
  - We need technologies and methods which enables us to take risks, how to teach risk?, there are pros and cons of risk, we have to learn to assess risks!
  - We need skills mapping and scanning: what are the have`s ; have not`s and desires.
  - Problem identification: this is an important element of innovation, what are yours or other people problems.
- Further discussion topics:
  - An interesting example is the Kodak case were kids were able to develop a technical problem within half a day for which Kodak worked unsuccessfully for years
  - Why should kids become adults? Should adults become kids? …
  - Is nowadays only discipline important in schools? Probably yes, However, innovation need both, creativity but also discipline.

Open Source Society



Picture 8.3.: INFU Vision Open Source Society

The following aspects were considered relevant in the workshop:

- What is the new underlying economic model and socio-economic contract of the open source economy?
- What is the motivation to innovate in this model
- What are the implications for current power relations
- Most likely there will be different forming of status and identity, more psychological flexibility will be required from everybody
- What is the governance model? Obviously there will be more self-regulation, but how to prevent inefficient solutions (environmental impact!)? Will there be an minimum entry requirement
- How will the provision of the "hard parts" be organised?
- An open source infrastructure should be established in a stepwise approach as a way out of "patenting mess".

Participants of the Workshop:

- Anna Trifilova, Nizhny Novgorod Architecture And Civil Engineering State University, RU
- Bettina von Stamm, Innovation Leadership Forum, UK
- Peter Robbins, The Innovation Foundations, UCD, IR
- Gold KJW, Jonsei University, Korea'
- Kiemen, Mixel, Vrije Universiteit BrusselBE
- Jack Smith, University of Ottawa, CA
- Paul Isherwood, GlaxoSmithKline, UK
- Yuin Mo, Manchester Business School, UK
- Thomas Teichler, Manchester Business School, UK
- Sylvie Blanco, Grenoble Ecole De Management, Grenoble, FR
- Ian Miles, Manchester Business School, UK

- Rafael Popper, Manchester Business School, UK

A1. INFU-Mini-Panel: Automatised Innovation

THE INFU PROJECT

ABOUT THIS DOCUMENT

Cover Synthesis from Mini-panel "Automatising Innovation", v1.0.
To be contributed to INFU Project Workpackage N°3, Task n°3.1.

By: Patrick CORSI , KINNSYS, Brussels.
Edited on: 17 January 2011,.
Last update: 20 January 2011.

I – INTRODUCTION - ABOUT THIS DOCUMENT

This document constitutes a synthesis resulting from the set of operations conducted during the "Automatising Innovation" mini-panel of the INFU Project over the last quarter of 2010.

This Mini-panel was tasked with the engaging into a far-stretched theme that spoke about *innovating innovation* both in a fundamental and practical way. The surprising -even intriguing- voluntary juxtaposition of the two verbs *'to automatise'* and *'to innovate'* comes close to an oxymoron. Yet, the approach is conducive to a new way of thinking whereby previous innovation schemes and models can purposely be put to question and radically new paths, perhaps disruptive, can be devised. Then, the Automatising Innovation Mini-panel could be later seen as a contribution to a future discipline that we would call *meta-innovation.* It has been my clear view that the European Union should join disparate forces to explicitly tap expertise conducive to meta-innovation.

Through this Mini-panel, seven high level European experts were duly interviewed who offered distinct thinking lines. Systematic reports were produced that accounted for their voiced input contents plus cross-syntheses. It can be straight assumed that experts reflected their actual practice. And this is credible as the role of the interviewer (myself) was always, while honouring their status and expertise, to make a part of their tacit knowledge more explicit. Indeed, tacit knowledge usually isn't expressed upfront in interviews. Several experts were even surprised at the reflection of their transcribed interview: it made some of their tacit knowledge explicit!

The purpose of this additional synthetic report is to shape the whole output yield up to a denser and more structured level, also to enrich it as believed appropriate for any possible future use. In particular, the views proposed below are, although in a quite remotely synthetic form, a transcription of many ideas emerged when interviewing targeted field experts. While an effort was made not to bias the field findings, it is evident that any synthesis is prone to another expert bias and opinions, that roots in his culture, own knowledge and views. And that may sometimes tag the issues at hand with proportionate emphasis or de-emphasis. While we genuinely believe that this is unavoidable at single expert level and can only be de-biaised through some integrated collaborative exercise, workshop or else, it is nevertheless the main duty of the "synthesiser" to bring up to light some clarified issues that appear to carry reasonably high importance.

As a matter of fact, the Köln Workshop held on 9 December 2010 in Köln was instrumental in confronting sided views from a much wider experts panel.

I – THE FOUNDING VISIONS FROM THE INFU PROJET

The present Mini-Panel drew its main motivational thrust from three Visions out of the set of 19 that the INFU project previously elaborated.

Here they are as a remainder and a guideline.

1. VISION N°2. *"VIRTUAL ONLY."*

- Many innovations to be enjoyed only virtually. Most of them are never materialised.

Virtual-Only products:

- Satisfy human appetite for newness,
- Are displayed in virtual galleries for public perception or projected into homes and offices for individuals on demand.

2. VISION N°13. *"DARWIN."*

- Digital systems are used to randomly create and test innovation variants before selecting the fittest for further development.
- Enormous amounts of variants are tested, often with an unexpected outcome.
- Design, creativity and consumer research loose relevance.
- Engineers dream of ultimately simulating the end-user and thus fully automate the innovation process.

3. VISION N°14. *"WEB-EXTRACTED INFORMATION."*

- Scan Internet for ideas.
- Automatically pick those that best answer to current customer needs.

Semantic web-filters:

- Track changes in consumer preferences and new ideas in real time,
- Automatically extract innovations with outstanding market potential.

The above Visions were however not intended as limiting the discussions to their specific scope and perimeter.

I –A SYNTHESIS FROM THE WORKSHOP'S OVERALL FINDINGS

Top-level keywords that characterise the ensemble of the interviews contents are:

- Individual, collective and organisational *culture* as a critical enabling fertilising or "denabling" extinguishing soil for innovation.
- A distinguishing axis *Process–Technologies* that brings that unique dual line between *what* is being innovated and *how* the innovation is being brought up by the transformation agents.
- The *Organisation-Structure* dimension that both shelves an innovation capacity, the innovations and the players with their assumed roles.
- A *complex system* approach (dynamically linking stakeholders, with openness, sharing and other possible principles).
- The *usage ecosystem* (users, the "needs" galaxy, the behaviours – the "play", the emotions, etc).
- The multilevel views in automatising from macro, meso and micro.

The above aspects can suffer much generalisation and deepening – and this may trigger several researches over the decade 2011-2020 - yet this was out-of-reach within the Mini-panel. As innovation has built a field of its own, it departed far from the old R&D activities that were so prevalent during the 20th century.

The outlook for "automatising innovation" should be seen at the light of a general and multidimensional evolution. Four dimensions seem relevant:

1. From *implicit* (tacit) knowledge to *explicitable* knowledge,

2. From *passive* to *active and proactive* behaviour,
3. From *closed* systems to *open* systems,
4. From *"command & control"* type of management to *influence* generation.

Some experts evidenced the passage from implicit to explicit as a fundamental prerequisite method for any progress further in tooling innovation processes. Note that the "linear" chaining *Implicit* ←→ *Explicit* should support backtracking because this offers interesting new means to smooth out ruptures as seen from the markets (see below please).

We would only strongly back this view and hypothesise that this would receive much attention in coming research and also at tools implementation level. The passage should however not be seen as opposing the two modalities *tacit* ←→ *explicit,* but instead as a dynamic and constant interlink between two intrinsic states of the knowledge sphere, one of which belongs to an infinite and imaginary space (tacit knowledge) and the other to the corpus of available and actualisable knowledge elements.

The CK theory was mentioned in an interview that offers an answer to this problematic as it is based on logic and data for accelerating a team's ability to solve problems creatively. It's a constructive approach that builds solutions by confrontation to a problem. However, value isn't a target as *novel* values would be expected to come to light from automatising innovations given that the act of bringing breakthroughs out may possibly generate uncharted or unexploited values. Not forgetting for sure that society always periodically reinterprets values of previous epochs and that may be seen as… novel by latest generations.

On the whole, one finding was that automation can't be reached through a straight linear process, but instead minimally requires transitory stages as follows:

PHASE	A. The preparatory groundwork	B. The processing of the "easier components". The extent of possible "automations"	C. The system level arrangements
Code word	INERTIA (working at system's ~)	RECURRENCE (prune out all that can be automatised)	ECOSYSTEM (link-up components, if possible dynamically)
Keyword	PREPARE (sort-out, prioritise, burgeon concept ideas, etc.)	EXPLICITATE (tacit knowledge) AUTOMATISE (routinise, formalise, modularise, etc.)	Models that MOBILISE ecosystems (stakeholders, external components, etc.)
Possible focused actions	Find out Idea-to-product cycle and the parameters. Work out terminology (classes…) Degree of web-centricity, web dynamics or other	User feedback activation (responsive users): spring from web, IP Dosing ruptures	Collaborative capacity Virtual environments as strategic spaces (creation, systematic combinations, exploration)
Expectable challenge and (later) main benefit	*Challenge:* standardisation requires a common dictionary condition monitoring	*Challenge:* rearticulating (recombine knowledge, connect the dots), enhance process (represent info flows) *Benefit:* reveal hidden expectations	*Challenge:* Intensification of innovation process. *Benefit:* Acceleration through a networked operating model, scaling up

Figure 1. *Evolution and foci for the envisaging « automatisation of innovation. » Three phases appear to be indispensable in order to articulate and actuate an automatising process.*

In Phases A and B, automatising innovation raises issues regarding IPRs. It would be useful to scope this incidence. Phase C speaks in favour of open communication (collective intelligence, shared platforms, etc.) and this is founded on clarified IP and confidentiality rules. Note that there's automatisation value in standardisation. Modularity implies that a development is possible from terms and references. Moreover, when a standard is available upstream, the component is automatisable.

The role of business models (BM) in automatising innovation was mentioned a few times and it seems that this would require some research. We know a number of scholars having researched in BMs recently but the contribution of integrated BMs or platform leadership BMs to automatising innovation just hasn't seemed to be yet scoped.

This brings a few other questions: who could be a suitable referent (responsible for budget and authority) for automatising innovation in a company? Which processes to put in place to experiment with one or several phases above? Which competencies are useful for so doing? How to associate project designers to the automatising moves?

If and when innovation is relatively automatised, will its performance surpass R&D yields by a new order of magnitude? This remains unanswered at the moment. Would performance increase from automatising innovation make deliver faster innovation processes? What are the conditions?

II –HIGHLIGHTS FROM MINI-PANEL OPERATIONS

About thinking disruptively

Is a new art with no method yet. In the past, creativity was put to high status for delivering new concept-ideas. Yet, thinking the ruptures plus smoothening them out isn't backed with theory yet. Making a radical innovation is a double step operation:

a) To minimise the Investments while maximising the Results (here e.g. Open Innovation principles are of great help – this isn't developed in this Mini-Panel).

b) To maximise the Yield (profit, etc.) while minimising the Perception of the rupture by the market.

Step a) envisages a "R&D continuum" where to tap for sharing or exchanging risks, budgets and values. Step b) is a marketing imperative for embedding underpinning ruptures into a "market continuum".

The "automatisation" power of the web

The web has become a formidable acceleration factor. There's fractal behaviour in its dynamics. A web-centred method reflects the practice common in a knowledge-based society, whereby value is in processed speed of sharing contents. The web is also a configurable method that looks at users, who then adapt to it. Which means that customers co-produce through new business models.

Special mention should be here made to business models in general as these can be considered as genuine automatisation constituents. We share a belief that business models are one building block for automatising innovation. Of course there is tremendous interest currently vested in business models through research, but a point here is to become able to measure their performance. An operations model is glue that factors individual entities into a whole mechanism that retains economic or social sense with increasing returns (monetary or else). Problem is that with innovation, decomposing the mechanics into linear elements, sequential steps or analytic bits isn't quite right: innovation is a naturally complex adventure…

Immersive technologies and platforms

These bear a unique potential for visualisation, simulation and tests without the burden of accumulated weights and costs of matter. Any innovation is then born from the immersive and interactive (perhaps even 3D or real-time) vision and sharing joint characteristics. This enables a novel, non-simulated, experience and induces "immaterial" decision making that shrink whole industrial processes. However, observers note a resistance to innovating that fast way that is structural and managerial, and especially for SMEs.

Virtual environments enable the direct metaphoric picking of applications through virtual libraries. Such virtual process combines the creative thinking from imaginary spaces with the corresponding visualisation, and directly links up three previously disconnected stages:

Cognitive spaces – physical actuation – feedback

That, together, enable the going beyond mere productivity. Of course, a degree of automation comes through the visualisation within a common collaborative space that enables automation through properties. Moreover, there exists underpinning links among virtual elements and this means some automation at higher levels.

Organisational culture

Cross-collaboration isn't an evident feature of organisations. Culture has a viscosity degree in each context that operates both ways: in sealing new acquired habits and in blocking new adaptations. Culture is perhaps that formidable factor that isn't automatisable when innovating. Habits come from past consolidated and practiced know-how but entrench into closed paths and make adaptation more difficult at both individual and collective levels.

NB. It would be interesting to tap the Japanese anthropomorphic view of innovation with robots of all kinds. If robots – de-contextualised avatars - haven't got and don't carry a particular culture, why couldn't they be able to learn ways for automatisation? Here's a seemingly clear gateway to artificial intelligence.

The sheer issue of evaluation

Evaluating innovation performance is a subject that is still in the limbs today. Building links between working hypotheses and testers' (or validation) appreciations is a necessary step to achieve consolidation in automated innovation. It's a complex issue as the links to build resonate with all possible dimensions such as user's needs and other input information sources or quantum performance increase and other analytics, etc.

III –POSSIBLE SUGGESTIONS AND FOLLOW-ON

Given that the above views are directly driven by the panel findings, it seems appropriate to give them further light with a view to found new research avenues, governance principles and policy measures.

One of these is perhaps the raising awareness about the nowadays-fundamental distinction between:

a) R&D: companies that invest the most in R&D, focus of most research national and community programmes,

b) Innovation: companies, regions, labs, etc. that innovate most.

It is an established fact that there isn't any correlation between the amounts invested in R&D and the capacity to innovate.

It may be useful to setup a collaborative action that focuses on automatising innovation at wide scale by also capitalising on the principles and methods of Open Innovation. A concertation forum that would recommend research avenues in this context seems appropriate for the years 2011-2020. However, the competencies coverage for tackling the automatising innovation isn't much scoped at the moment.

We would recommend reinjecting the present synthesis elements in specific further documents produced by the INFU project dealing with the deepened study of innovation and notably those ones directed towards the European Commission's expert staff.

A2. INFU-Mini-Panel: Deliberative Innovation

Danish Board of Technology
December 9th 2010

A future innovation landscape 2030 where citizens are massively involved in the innovation process

The deliberative innovation landscape 2030

Innovation springs from many sources, but there are two main societal deliberative innovation processes:

- Innovation driven by societal needs and challenges
- Innovation driven by citizens' ideas

Innovation driven by societal needs and challenges

Where before technology and technological development were the absolute main source and starting ground for innovation, it is quite different today. Little technology is developed without a purpose and little purpose is defined with out involving civil society. Civil society – Citizens, CSOs – is involved in deciding on every major investment in innovation. The innovation takes its starting point in societal needs and challenges, people choose what challenges to focus on and what development to aim at, interests are involved in defining the specific goals for innovation, politicians are involved as well and policies are decided and adjusted in relation to the wanted development and the innovative needs.

All in all investments in innovation become:

- More focused
- Better adapted to societal needs and citizens (users) wishes
- In line with regulation and political development
- And then there is a predefined market for the innovations

In praxis deliberative innovation processes are started with the purpose of finding innovative solutions to societal needs and challenges every time such a need or challenge is defined. The deliberative innovation process starts with appointing a citizen panel of a representative group of citizens. This citizen panel is involved in a longer process of uncovering the nature of the societal need/challenge, evolving innovative solutions, assessing different opportunities and finally deciding on how to proceed to reach innovative solutions to the needs/challenges. The whole process evolves around the citizens' panel, but also includes experts, stakeholders and politicians. To a large degree the success of this innovation process is based on the political.

Innovation driven by citizens' ideas

Another important part of the deliberative innovation landscape 2030 is innovation driven by citizens' needs and ideas. Business is still the main driver of product innovation and development, but citizens are to a much larger degree involved in the actual idea building phase. In a structured process citizens put forward their own ideas for new innovation. If these ideas are

valued to be good enough they are taking on to actual (open) innovation processes by private business.
The pivotal point of innovation driven by citizens is the I-day. Once every year an I-day takes place. It is a national event, where citizens can enter into discussions about innovative ideas at physical meeting places, get inspired by presentations of new science and technology and contribute with their own innovation ideas. The contribution is done via the internet on the Innovation Portal. On I-day a special interface is open to promote innovative ides. In the same interface it is possible for all to comment on ideas and to vote for ideas that they find good. If an idea reaches a certain number of votes it is automatically transferred to a process involving business enterprises and possibility of public funding. The weeks before I-day the interface at the Innovation Portal is promoted especially, but it is open the whole year round – the peak at this day is necessary to involve citizens, but innovative ideas can be entered into the portal all year round, and from there it can be picked up by private businesses, who will develop the innovative idea in collaboration with the originator of the idea.

Narratives
- Two citizens' stories

Susan: Involved in societal challenge – vision – innovation process
Susan looks around and sees the lively movement of people in the streets. It is incredible how so many people can transport themselves around with so little noise, so little pollution, causing so little inconvenience to each other and to the surroundings. She can't help but feeling a little proud, like it is her own success… She knows that she is not responsible for this amazing development in the way people transport themselves around in the city, but she did play her part. She remembers gladly the inspiring and exciting process she was involved in – 10 years ago, is it really that long…
She remembers how she was invited along with a group of other citizens to take part in an 'innovation for society' process. At first she was sceptical, but also curious. But during the ½ year process she became very enthusiastic . Being involved in making visions for future city transport, prioritising experts' recommendations innovation needs and finally voting for the policy actions was truly a great process. She felt that she was actually heard!
And now, standing in the middle of one of the most busy crossroads in the city, she could see the result of the following years of new policies and concrete innovations. It was an absolute pleasure to be walking in the city! Yes, she was proud…

John: Making his contribution at the yearly I-day of Innovation
People liked it! John was a bit surprised, then he got euphoric! Maybe his idea would go on and become an innovation for the future. He posted his idea only 45 minutes ago and already 1206 people had voted for it as being interesting and something that should be taking further. He could also see that the selection committee had looked at it… What was that – now the idea was not just at the idea interface, they also put it on the partnership interface. Now it was no longer just an idea, no they wanted to find people who could actually carry out an innovation process based on his idea, scientist, entrepreneurs, funding.
Back at the idea interface he could see that quite many people had started to work on with his idea, putting new angles to it, combining it with their own ideas, suggesting specific

technological development. Most of it was not in line with his original thoughts, but he had to admit that some of the suggestions where really good. Improving the first idea a lot!

Main arguments behind the vision

The benefits of innovation based on citizens participation can be summarized as follows:

Innovation is more relevant
- Innovation is targeted at solving societal challenges
- Innovation is addressing actual needs of consumers (/citizens/society)
- Innovation is based on the context, not on the technology
- Innovation is more socially robust

Innovation is more democratic
- Democratic credibility of innovative changes are strengthened
- The many resources used on innovation are distributed on a more democratic basis
- Innovation becomes more independent of direct interests

Widened knowledge base
- The knowledge base of innovation is widened by involving the many and very different competences of the citizens
- Trans-disciplinarity is taken to a new level
- Out-side in views complement the dominating inside-out perspective of innovation

Market Logic
- Innovation that solves societal problems have a huge market
- Innovation based on citizen participation has a better change of being long-lasting
- It is easier to foresee public resistance towards new solutions and/or products and incorporate the scepticism in the development

Drivers / barriers

- Political engagement

Political engagement and will to involve citizens in a process of making societal innovation for better solutions of societal challenges

- Private business

Private business seeing the idea and market logic behind involving citizens in innovation and basing innovation of new products on citizens ideas

- Organisation

The organisation around citizen participation in innovative processes has to be well functioning. Good organisation will engage citizens, bad organisation and organisational problems in the process will make citizens loose the interest

- Visible results

It is important that results of the process are visible. If citizens can’t see that their involvement leads to anything they will loose the interest and engagement in deliberative innovation

A3. INFU-Mini-Panel: Social experimentation

INFU_innovations futures...
Panel social, local, public participative innovation...

François Jegou, Strategic Design Scenarios,
Stéphane Vincent, La 27e Région
October 2010, draft version

Introduction

This mini-panel was organised as a simulation of a *Citizen Agency*, an hypothetical future local development structure whose mission is to involve the participation of the population on social innovation topics. Through this simulation, the aims of the panel were to project in a 20 year time the current consolidated or emergent innovation skills on this topic, to envision the approaches that may be used and to describe the possible resulting changes at micro level (daily living), meso level (institutions and local communities) and macro level (society as a whole).

At start, the *Citizen Agency* is proposed as an interdisciplinary team regrouping through the participants listed in annex 1 the various competences that seems to converge at the moment toward public engagement, collective involvement and active participation of the populations in local, bottom-up and creative processes of territory development. The simulation process detailed in annex 2 was based on 3 steps:

- an informal profile description for the recruitment in 2010 of a panorama of various competences among specialists of participative democracy, sociologists oriented towards field action, social entrepreneurs, service designers, social web-activists, collective of artists, architects and urban planners focusing urban interventions, local development agents, etc...

- after 20 years of collaboration within the *Citizen Agency* in 2030, a working meeting for the collective organisation of action plans for different challenging projects such as: *the creation of sheltering solution distributed within the population of the city of La Rochelle to host the 50 000 refugees from climatic change flooded on the French coast around*; *the involvement of a bottom-up process for the emergence of a new Euro-region between the French and*

Belgium Ardennes; *the deployment of distributed solar harvesting in private and public spaces in Toulouse to ensure energy autonomy of the city*;

- the 3-years period self-assessment process of the *Citizen Agency* 2030-2033 that consists in listing most successful innovation modes, action and tools proposed by the structure; in assessing its main strengths and weaknesses; in describing how the deployment of similar local development structures changed the citizen daily living at micro level, renew the public/private institutions at meso level and impact on the way the whole society appears at macro level.

Drafting a Citizen Agency...

***Action plan for the creation of sheltering solution distributed within the population of the city of La Rochelle to host the 50 000 refugees from climatic change flooded on the French coast around*;**

How can a city with 77 000 inhabitants hosts 50 000 refugees within a few days ?
In such a critical situation (even worse than Xynthia hurricane in late February 2010 when 56 people died around La Rochelle and 1 million houses had no more electricity), it is very clear that official authorities won't be able to make it without a strong participation of people and inhabitants, in a totally new way to do it. Reactivity, involvement of the refugees themselves, training process and creation of collective dynamics will requires a highly professional program based on social innovation. This is a perfect challenge for the Citizen Agency…

***Action plan for the involvement of a bottom-up process for the emergence of a new Euro-region between the French and Belgium Ardennes*;**
In 2015, the Europen commission launched the "Co-Region challenge", a huge initiative which goal was to encourage more cooperation between the European regions. In 2020, it turns into the creation of several Euro-regions, generally gathering 2, 3, even 4 different regions. In France and Belgium, the idea came during the institutional Belgian crisis in 2010, but it took 10 years before local referendum and both national and regional politician show that the ground was ready to the creation of an Euro-Region. Now that the constitutional and legislative way is open, how to encourage a popular dynamic, making sure that the man in the street feels engaged in this historic process ?

A vision of the Citizen Agency in 2030

In 2010, the Citizen Agency was a traditional participative innovation agency, working on the basis of cross-disciplinarity for private and public sector. 20 years later, CA is strongly positioned and has totally transformed is values and methods. The new keywords are trust, care, responsibility and long term.

The Citizen Agency is now a member of the social department of Creative Commons Knowledge, an international network of agencies whose main characteristic is that they all document their methods, their work and their projects with an "open source" approach. The CA contributes in a public portfolio gathering a large range of cases,

including records, videos, pictures and detailed descriptions of all the methods and tools used that anybody can freely re-use and improve.

More important is CA's business model. CA waits no more for clients to buy its advices and missions. CA is an independent agency focused on "prevention-action" in middle and long term. CA decides where it is important to work before the damages arise. For instance, CA was the first agency working on the phenomena of massive internet addiction in 2015, and its works has inspired many national agencies and governments. CA gains are calculated on the basis of 5% of the social and economic impact evaluated by international organisms. Its budget comes both from international founders and local micro-credit budgets.

Regarding methods, CAs' toolkit is strongly based on immersive approaches. With its partners, CA runs simultaneously many micro-projects all over the world, with a turn-over of 50% each year. These are like micro-labs dedicated for anthropology and user-research, but also testing, prototyping solutions, before spreading on larger scales.

CAs' staff is a network based on strong cross-disciplinarity: people comes from theatre and movie industry (directors, writers, reality-show producers), user-research, co-design and sociology, architects, urban planners, artists, technology and neuro-sciences, etc. But the comment point is that all of them have strong pedagogical abilities.

Emerging issues in terms of innovation

These various projection exercises allowed the participants to interact, build collaboration and outline a series of key issues likely to characterise social / local / public innovation in a 20 years horizon of time.

Clarifying participation...

The panel brought together a range of professionals converging on the field of social innovation and social change. Their explicit common ground is to work close to the population, facilitating grassroots collaborations and engaging bottom-up processes... Their various actions modes stays under the large umbrella of citizen participation and they recognise themselves more or less as such. The amalgam with participation to governance processes is often made, drawing a shade of disillusion with this (in France) very much diverted and abused political concept although the focus is here on participative innovation or co-design is different.

Innovation and implementation...

Discussion of this particular focus on participative innovation processes reveals also another area of confusion between innovation and implementation. In all the industrial culture, a clear distinction was made between the innovation process devoted to professional engineers, architects, designers... and the production of goods to be made available for consumers. Participative innovation processes tends to blur roles when the user becomes co-inventor and co-producer of the services s/he will use. The benefits of this participative innovation is clearly to overcome the distances between the innovators

and the users and offer solutions more rooted in local contexts and evolving with it. The consequence is that users are more and more involved in a demanding co-production process leaving the door open for abuse reducing dramatically the supports of the state for public services and under the cover of increasing quality and appropriateness of services, always loading more the citizen shoulders.

Blurred and connected

The panel simulated the collaboration of range of different professionals to support processes of social innovation and change. One of the striking common characteristic is the more or less dissident posture of the professionals gathered for the panel from their traditional discipline: collectives of architects and urban planners starting from the micro scale of users; sociologists involved in the implementation of their observations; artists devoted to trigger collective action in urban space; social entrepreneurs aiming at reforming institutions; designers devoted to social change; web developers involved in social activism... This panorama of evolving skills shows beyond multidisciplinarity a mature interdisciplinarity where competences blurred each other, cross-fertilize and mix. The very panel process revealed a strong mutual interest among participants, connecting and gently making use reciprocally of each other skills and tools in order to complement what they miss. It outlined a strongly integrated and highly flexible body of competences.

Small and open

The trends of participative innovation ranges from large crowd-sourcing process to local small scales collaborations. Although both starting from the user, the two phenomena have a different nature: where the first is an anonymous one shot quantitative harvesting of ideas, the second is rather a local interaction over a long period between relatively low number of people sharing the same context.

But small scale collaborative innovations may still take place at the level of a city or a region and involve relatively high number of people connected through digital social networks. The reliability and integrity of the process is an issue either because such informal processes can be recuperated easily by political manipulation or because they favour forms of localism and exclusion through the expression of minorities who are able to participate more than other.

If the scale of participative innovation is not small enough to ensure enough self-assessment and control from the part of the participants themselves, the participative interaction should be organised as open and transparent as possible to avoid deviations.

Enabling experts

Experts supporting social innovation are confronted to a series of trade-offs. Supporting small and specific groups individually for long periods as required by social change is an economically unsustainable process. Forms of up-scaling should be found either by sedimenting part of the experts knowledge into toolkits to be reused in similar situations or by teaching people part of the experts professional competences. In both cases the challenge for experts is to transfer their skills in order to enable the population to autonomously improve and disseminate their own initiatives. This introduces a second

trade-off where experts should give up their expertise position (something that they are generally reluctant to do) and acquire teaching and coaching capabilities to be able to effectively transfer their knowledge.

Long time

Supporting grassroots innovation and social change requires long periods of time with represents a challenge for stakeholders involved to loose breath and dilute their supporting action. Financing and subsidies processes are generally focus in time which doesn't favour the organisation of lasting efforts. More articulation in the supporting process could help to face this problem with for instance:

• an initial kick-off with requires a high creative engagement effort to create to momentum;

• it should be followed by a period of transfer where the effort is focused on enabling the population involved to continue the action alone;

• finally a third focus should aim at shifting this pioneers population from involving directly in the local development to themselves support other groups to take action. This basic and maybe slightly idealistic scheme of deployment of social innovation should be refined to overcome several challenges such as maintenance of the social dynamic, skills transfers or change of people focus from doers to enablers...

Avoiding dilution

High levels of participation tend to produces average quality. Compromising to include all range of social requirements reveals lukewarm solutions... On the other hand strong project statement and decision-making tend to weaker participation and discourage engagement.

The current increased focus on participative innovation is now a clear reaction to excessive bottom-up approaches and result in the belief that the solution is entirely contained in the grassroots population. A more mature approach would overcome this somewhat naïve opposition to combine professional specific skills and user experience.

Middle-down

Where to situate the best level of intervention to support social innovation is also an issue: a rooted bottom-up approach is necessary to capture local context specificities but it risks to loose itself into tiny details whereas large panoramic and anticipative approaches are able to embrace large questions but risk to miss the point.

Halfway, a middle-down approach would define as small and localised enough to grasp the specificities of the context but still detached and acting from a distance at medium scale to allow the use of professional support skills.

Prevention and long term innovation

The attendees also came to the conclusion that participative innovation should not only be used for problem-solving when these problems occur, but also as a way to re-invent prevention policies –which, we all know, is a major issue as traditional communication tends to be a failure. The experience shows that people are able to think in the long-term if they are encouraged to. As a way to improve this ability, the attendees have

suggested programs with a large scale impact, often inspired by artists and performances –for instance, the launch by Lego of a new range of products dedicated to crisis amenities, refugees transportation, etc.

Resulting vision

The diffusion of such social and local participative innovation is likely to induce changes and impact society at micro, meso and macro levels.

Micro level and citizen living...

Frequent involvement of user in innovation processes at many levels of daily living may ends-up into a participation fatigue... A certain balance should emerge between the pleasure of taking part, of re-appropriation of building own life on the one hand and, on the other hand the relief to find ready-to-use solution.

A culture of participation may blur the current status of consumer reinforcing from school self-determination, a balance in people activities between paid-job and free participation/involvement, life based on a mix of active and passive status according to need areas and interests.

Another point is the concrete experience of participation from the point of view of the participants themselves. A successful participative project generally means a change of vision, generally more virtuous and more positive afterwards. When the more intensive participative step of the project is over, it is not always clear how to maintain and develop this change, and what to do with it. In the future, it seems that it will be more and more important to understand these individual and collective dynamics and explore how to stimulate it on the long term.

Meso level, institutions and local communities...

The *Citizen Agency* was a pretext to stimulate the engagement of the participants within the panel. It reveals anyhow a promising hypothesis of a middle-down interdisciplinary structure available to link governance and citizen actions. It also shows that in the long term, participative innovation may involve business models that would no more be only organized around the suppliers/users duo, and that a new “economy of contributions” could more generally change the patterns of procurements and of the whole consultancy economy.

In this example, we decided that the participative innovation process should be brought by an external agency. But what if it was led from inside? Is it better to run innovation from outside or from inside –organizations, administrations, companies, etc? This is an old story about innovation and design thinking… but maybe participative innovation requires a new kind of positioning in the in between, enabling a double gain, who sounds like an oxymoron: more legitimacy because close to the power, but also more independency because external. The culture of hackers talks about “friendly hacking”, and this might be an interesting vision for new forms of innovation in the future.

Macro level and society change...
The diffusion of participative innovation questions the role the state towards organising and enabling citizen action and regulating the right balance and individual choice between freedom to self-organise and possibility to benefit from ready-to-use solutions.

Another point is the necessity to clarify the status of participative innovation in the bigger picture of democracy. In France, there is a strong culture in “participative democracy”, involving numerous public debates, thousands of local institutions (more than 180 different kinds of citizen councils, dedicated to youth, older people, neighbourhood, disabled people, etc), local and national polls, etc. While this participative democracy -mainly created by the institutions themselves- suffers from crisis and some inefficiency, is participative innovation a possible alternative? Is it just a method or does it reveal a higher vision?

Conclusions [pros and cons...]

The hypothesis of Citizens Agencies explored here as a teaser to stimulate the panel reflexion tends to confirm INFU vision 5 of public innovation based on a permanent state of social experimentations. Social changes and transformation in complex and multi-dimensional issues such as mobilisation after natural catastrophe, geopolitical reconfiguration of territories simulated here or major societal questions as sustainable transition, transformation of education or health systems could benefit from multiples experimental micro-projects involving participation of local stakeholders to stimulate, try and debug new ideas. Equally important is the fact that these local experimentations should be strongly connected to learn one from the other, sediment lessons learn and continuously transform interaction and regulation processes between stakeholders.

A permanent state of diffused innovative experimentation questions deeply the classical and mainstream model inherited from the industrial revolution where the innovation process is disconnected both from the production phase and usage context. The emerging paradigm for social and usage innovation analysed here is based on a more organic process where a community of local stakeholders are at the same time the range of users in need for social change, the inventors and developers of new solutions between themselves and the future co-producers of these solutions they will benefit from. Being so organic and interwoven, the innovation process is, in fact, a continuous transformative experimentation and collective learning process.

In consequence, there is not an explicit and clearly identified result of the innovation process that formerly was identified as 'the innovation'. The result is an 'implemented innovation' and the value of it is to be found more in the local instantiation of the solution than in the solution concept that is behind it. The deployment of the innovation can not be based on the simple duplication of the implemented innovation. What is replicated is the transformative innovation process: a community as completed a successful 'implemented innovation'. Another local community, inspired and guided by the experience of the first one will reinvent, appropriate and implement its own 'implemented innovation'.

The difference with simple historical social evolution is the range of tools and supports that enable the communities of social innovators to facilitate social change processes, fluidify convergence of stakeholders, augment social solutions with technology and benefit from the support of professionals ranging from social science, innovation processes, engineering, business, etc (as for instance illustrated by the case here of the Citizen Agency).
Technological innovation goes along with the social innovation process. Beyond duality between 'techno-driven' and 'people-driven' the co-evolution between technology and social change should be understood as a permanent dialogue facilitated by innovation mediators like the Citizen Agency. Private companies marketing and user research will evolve as cultural mediators or business interpreters participating to the local micro-experimentations to test product concepts and search for new opportunities of demands.

Public authorities have both important regulation and mediation roles to play in the vision developed there to ensure a collective learning benefit and prevent local disorders. Public regulation differs from what it is nowadays. It would have to promote this balanced and fertile permanent state of micro-experimentation both keeping the legislative and subsidiary framework open enough to enable innovative experimentations. At the same time this framework should be kept updated to avoid derives and user participative overload. The construction of an effective learning process will rely mainly on the capability of public authorities to organise, mfollow and connect the many micro-experimentation, put them in relation, sediment tools and practices to make them available collectively.

If providing clear benefits, this vision of a permanent state of experimentation presents obvious limits. Continuous involvement of all stakeholders, systematic co-elaboration with users, permanent state of experimental and never finished solutions is very demanding in time, constant adaptation effort, dedication from users and institutions. It will find its limits in a participation fatigue from stakeholders and users. If mature consumption society reveals too much disconnection from local specificities and users themselves are asking for more opportunities for participation, the vision developed here may lead to the opposite: too much participative and experimental status and not enough stable and reliable solutions available.
In terms of innovation processes, systematic user participation induces time-consuming approaches. Professional competences and dedication at local level are required to support each micro-experimentation. Limited possibilities in terms of economy of scale and even of economy of scope due to the very principle of continuous experimentations, make it an expansive approach. The richness brought by interdisciplinarity, brokerage of skills between different professional supports, empathy with local differences and specificities of each communities add to the heaviness of the method and reduces its chances to mainstream.

In conclusion, a balance between the current top-down innovation process lacking of participation and the INFU vision 5 of a permanent state of creative local micro-

experimentations is more likely to develop in future:

- Permanent state of micro-experimentations is a demanding but powerful collective innovation process. It is likely to be applied in more critical places or sectors suffering from chronic or persistent disorders and where citizens and stakeholders are therefore motivated to commit themselves in time and resources to apply heavier approaches aiming at structural change.
- For lighter concerns, territories and stakeholders will recall less demanding methods adapting locally and mainstreaming the successful solutions that emerge from the previous more critical situations.

The practice of innovation will evolve influenced by the strength of these new approaches resulting into a new culture of innovation characterised by:

- Increased blur between innovation, production and usage stages;
- Permanent dialogue and stronger brokering between stakeholders;
- An evolution of participative innovation support structures embedded in infrastructures from local to international levels;
- A mindset toward a more pervasive innovation diffused at all stages and levels in society;
- Citizens participation to innovation perceived as a form of democracy integrated in schools curriculum and contributing to societal change all along the life.

Annex 1: Participants

Corinne Iehl, Manager of CRé'Avenir, sociologist background consultancy involving users in urban transformation projects;

Maud Le Floc'h, Director of pOlau in Tours, a collective of artists and architects involved in urban activism;

Olivier Jouen, Manager of Port Parallèle in Paris, a structure supporting self-social entrepreneurs;

Guy Peudupin, Manager of nxa, Nouveaux Armateurs, a user research consultancy involved in citizen participation;

Paul Richardet, Project manager at Silicon Sentier, a NGO dedicated to IT, involved in social digital networks at Silicon Sentier in Paris, a non-profit organisation promoting la Cantine, the 'third place' where the panel took place;

Dilira Trupi, PhD students involved in social digital networks at Silicon Sentier in Paris

Stéphane Vincent, Director of La 27e Région, a Public Innovation Lab in Paris involved in renovation of public policies;

Michèle Dougé, Consultant in creativity in Paris, active in creative involvement of interdisciplinary groups;

Fabienne Pierre, United Nations Enviroment Programme in Paris (absent);

Charlotte Zuckmeyer, Manager of Respublica Conseil, a participation agency (absent)

François Jégou, Strategic Design Scénarios, Bruxelles, moderator for the INFU consortium.

Charlotte Rautureau, La 27e Région, Paris, co-organiser,
Perrine Boissier, Strategic Design Scénarios, Bruxelles, assistant.

Annex 2: self-portraits of the participants

Corinne Lehl

'Intervention Sociologist'

Wikipedia definition:

look for promoting prospective participation as action-research, especially in town planning and urban uses

3 Tools:

storytelling, interview, transfer of knowledge and tools.

One twit about a success:

an ethnological work (amateur-made) showing testimonies from inhabitants of a reconstructing area.

One twit about a failure:

participative democracy as an illusion of democracy because of a manipulated participation and bad conventional restitution of it.

Respond to a call of tender:

works on the call for tender itself, to transform uses and conception of public policies.

Paul Richardet

Communities' Manager

Wiki definition:

Helps emergent communities and sensibility to structure, contribute and develop themselves in a technological and business environment.

3 Tools :

peer-to-peer, technological tools like Google, exchange platform like “la Cantine” (so-called third place)

One twit about a success:

100 people, 10 hours, 15 projects

One twit about a failure:

100 projects, 10 people, 15 hours

Respond to a call of tender:

creation of a peer-to-peer training system.

Maud Le Floc'h

Urban Activist

Wiki definition:

Create conditions of an operational dialog between urban actors and artistic actors.

3 Tools:

marriages/couple of people with weak contacts, change of point of view, systematisation/rule of the game...

One twit about a success:

exploration and crossing unconventional territories

One twit about a failure:

work on a horizontal vision, fail to explore the vertical vision or the diagonal…

Respond to a call of tender:

a program of urban transformation including urban and artistic potentialities.

Olivier Jouen

Co-op of entrepreneurs

Wiki Definition:

to make one common enterprise from individuals projects; create enterprises of people and not of capitals, to build the general interest shared by enterprises

3 Tools :

coaching/consulting, pooling of resources and tools, social network

One twit about a success:

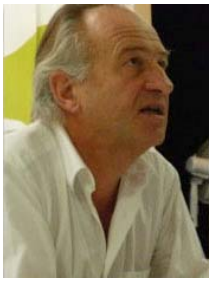
the creation of collective advantages makes collective enterprises more efficient than the creation of enterprises built on common law.

One twit about a failure:

to grow the collective enterprises without testing the economic viability of the system can generate precarity…

Respond to a call of tender:

a program of cooperative incubation to amplify the development of the collective enterprise spirit.



Guy Peudupin

Prospectivist Sociologist

Wiki Definition:

encourage behavioural evolution of citizens towards new sustainable practices.

3 Tools :

pluridisciplinarity, citizen participation, co-design

One twit about a success:

involvement of actors in a participative process about the development of their territory.

One twit about a failure:

the sponsored local communities have difficulties to respond to the dynamic of citizen involvement.

Respond to a call of tender:

territorial prospective, centred on the future of territory.

Michèle Dougé

Creativity Activator

Wiki Definition:

exploration of areas where creativity is able to boost and liberate imagination to make pleasant collaborations (within enterprises or public administrations);

3 Tools :

observation, test, grabbing opportunities of development.

One twit about a success:

transfer of knowledge and methods, e.g. expression or animation methods.

One twit about a failure:

abandoning or suspending a project.

Respond to a call of tender:

how to extend projects and diffuse them more widely?

Stephane Vincent :

Positive hacker

Wiki Definition:

reconsider the collaboration modes between experts and public actors.

3 Tools:

immersion/residence, rapid prototyping, provide information and record all steps of projects.

One twit about a success:

Social innovators are involved by the “Young Foundation” into public administrations.

One twit about a failure:

the vision centred on technology hides the real actors…

Respond to a call of tender:

an inter-regional innovation laboratory…

Annexe 3: Step-by-step of the panel:

Round table of presentation in 2010...
Participants were welcome with individual napkins with printed spaces for coffee,

croissant and several questions to describe their personal profile in an informal way such as: write a definition of your activity in 3 lines on Wikipedia; mention 2 typical call for offer you are answering or you would answer; Open your toolbox and show the 3 main tools you are using in your professional activity; write 2 Twits to tell a typical success and failure in your professional community.

The *Citizen Agency...*
Time is set to 2030 and a manifesto describing the *Citizen Agency* is pined on the wall. Is says: the *Citizen Agency* is the most famous local development structure, known for its richness, originality and efficiency in the methods it uses.
Its mission is to involve the participation of the population on social innovation topics. It employs a panorama of various competences among specialists of participative democracy, sociologists oriented towards field action, social entrepreneurs, service designers, social web-activists, collective of artists, architects and urban planners focusing urban interventions, local development agents, etc...

The *Citizen Agency: collective projections...*
After 20 years of collaboration within the *Citizen Agency* in 2030, a working meeting is organised with the participants for the collective organisation of action plans for different challenging projects.

- *Diffused sheltering in La Rochelle...*
  The creation of sheltering solution distributed within the population of the city of La Rochelle to host the 50 000 refugees from climatic change flooded on the French coast around;

- *Self emergence of Euro-region Ardennes...*
  The involvement of a bottom-up process for the emergence of a new Euro-region between the French and Belgium Ardennes;

- *Toulouse solar farming...*
  The deployment of distributed solar harvesting in private and public spaces in Toulouse to ensure energy autonomy of the city;

For each of the projects, a large planning is pined on the wall. Participants proposed actions that are discussed and organised on the planning horizontally along a time axis and vertically at micro, meso and macro levels.

The *Citizen Agency: 2030-2033 self-assessment...*
A 3-years period self-assessment process of the *Citizen Agency* 2030-2033 consists in listing most successful innovation modes, action and tools proposed by the structure; in assessing its main strengths and weaknesses; in describing how the deployment of similar local development structures changed the citizen daily living at micro level, renew the public/private institutions at meso level and impact on the way the whole society appears at macro level.

A4. INFU-Mini-Panel: City Driven Systemic Innovation

INFU_innovation futures...
Panel 'The open innovation city'

Author:
Daniel Kaplan, FING

Co-organisers:
François Jégou, Strategic Design Scenarios
Thierry Marcou, FING
Amandine Brugière, FING

October 2010

Introduction

The workshop's starting point was the following:

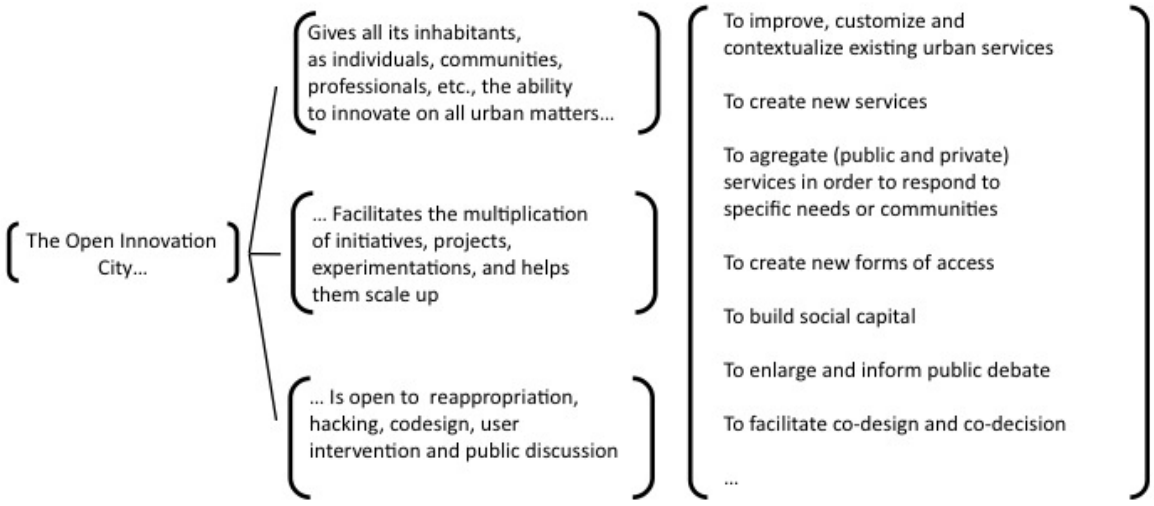
Beginning in 2012, Toulouse is the first city to declare itself an "Open innovation platform", with the aim of distributing the means to innovate to all, citizens, communities, entrepreneurs, established firms and public institutions.

The workshop was organized in 3 steps:

1. Participants were invited to "declare themselves" individually, indicating what they, from their professional or citizen point of view, were willing to undertake with the city in this new context. The goal was to add flesh to the concept of "the Open Innovation City", from the point of view of the actors themselves.
2. Participants were then divided in 4 groups. Each had to deal with one challenge the city gave itself or had to face within the next 20 years, and to design 4-5 initiatives that could stem out of the Open Innovation City in response to these challenges.

3. Finally, the participants were asked to individually describe their organization's, or their profession's, position and evolution 20 years from now, reflecting on their relationship to other urban actors and to the city as an institution.

What is an Open Innovation City?



The Open Innovation City is about:

- Co-deciding on all urban issues with citizens and other urban stakeholders. It looks for a win-win partnership between institutions (who can better perform their duties by focussing on their core missions and by receiving constant feedback) and other urban actors (who have an incentive to express themselves, innovate and take initiative).
- Co-producing urban services, not just as classic public-private partnerships, but through constant innovation in services and the delivery of services, stemming from all urban actors, from citizen communities to entrepreneurs, activists and artists
- Facilitating projects of all kinds, from the micro to the macro levels, from experimentation to implementation

The Open Innovation City is reflective:

- It observes itself, and the actions of its players: It constantly gathers and analyses data; It shares the raw data, the analysis tools and its analyses with all urban actors.
- It looks for feedback on its actions and all the experimentations that take place within its confines
- It constantly evolves

The Open Innovation City rests upon a number of key resources:

- Open data, be they public-service information (PSI) or other, crowdsourced or public data
- Flexible places that can support different kinds of activities at different moments
- Co-production places, including Fab Labs to prototype and produce physical as well as digital artefacts

Some of the key urban dimensions that could benefit from open innovation are:
Sustainability; Housing; Neighbourhoods; Citizen services (in content and access); Resource sharing; Public equipment; Mobility; Suburban living…

The Open Innovation City in action: Responding to major challenges [macro level]

In order to see how the Open Innovation City would work, 4 challenges were offered to the workshop participants.

Challenge #1: Factor 4 Toulouse
Together, the municipality and its stakeholders set themselves a major challenge in 2020: Reduce energy consumption by 75% in a 10-year period. How can the Open Innovation City help?

- **Action 1: Transferring energy production towards decentralized, renewable-energy production**

  Based on an initial information on available technologies, mechanisms and incentives, the city undertook a major crowdsourced effort in order to identify the potential for decentralized, renewable-energy production, by house, firm, neighbourhood: which roofs could be used for solar energy, where thermal energy could be available, where materials could be recycled towards energy production, etc. The same initiative looked for major energy leaks in housing (thermo-photography, etc.) and solutions.
  The city provided technical, informational and financial resources for these decentralized equipments to be installed, and brought the energy providers to co-invest in decentralized networks of energy distribution and storage.
  It ran a competition in order to highlight and extend the best practices in energy production as well as savings. It provided all citizens with personal online and mobile tools to evaluate their personal energy consumption and emissions.
  However, co-operation was not enough to effect major changes. The city also had to revert to financial incentives and disincentives, for families, housing managers, and corporations located within its confines. It also had to renegotiate its contracts with its energy utilities.

- **Action 2: Mobility exchange and substitution**

  In order to drastically reduce physical mobility, and taking into account its lack of financial resources that barred it from heavily investing in mass public transportation, the city looked for other levers:
  - Build a "Job and missions Exchange" that would allow people to exchange jobs, temporarily or not, based on the proximity to their homes
  - Integrate car- and ride-sharing into their public transportation information, planning and pricing systems, allowing any private or community operator to connect to them
  - Create a "Mobility assistance" service that provides multimodal itineraries, but also offers incentive to share rides, both for personal mobility and moving merchandise.
  - Facilitate the emergence of flexible working places, wherein people could come and work for short or long periods, hold physical/virtual meetings, benefit from shared tools (from printers and coffee machines to prototyping tools), etc.

- Facilitate the emergence of flexible service and logistics places, be they Public-access Internet places, local shops with some space to spare, post offices, that provide an aggregated access to public and private services, parcel delivery, etc.
- Most of those "flexible space" and sharing mechanisms are operated either by businesses or by community organizations.

- **Action 3: Imposing drastic changes**

  However, it quickly became clear that these initiatives would only work if the municipality was able to force change on all people, rather than just the willing ones. After a lot of public discussion, the city imposed a heavy tax on car usage, and even banned cars from large downtown areas. The tax took into account the existence of concrete alternatives for car usage based on where the citizens lives and worked, as well, of course, as the shared use of the cars. This decision allowed the former action to really start producing measurable effects.

Challenge #2: Airbus Industry leaves Toulouse

Airbus, Toulouse's main provider of direct and indirect employment, announces that it will shut down all its operations in Toulouse within 2 years, and move to Poland. How do all stakeholders anticipate this catastrophe, react and adapt to it?

- **Action 1: Phoenix, The Rapid-Reaction Task Force**

  In fact, the ongoing discussion between Toulouse's stakeholders had already discussed the possibility of Airbus leaving, if only as one foresight scenario among many. Phoenix emerged out of this prior work. It is an open group, with a shared governance, as well as a place, where:
  - All players meet and interact
  - Data on Toulouse, its economy, the opportunities it could seize, competing cities, etc., is made available, enriched and used
  - Simulation and scenario exercises are carried out
  - Projects are presented, discussed and facilitated

- **Action 2: Economic reorganisation**

  All Airbus' providers are brought together in order to collectively adapt to the new situation. Together, they build:
  - Networks, tools and places to collectively address clients and bids wherever in the world
  - Platforms that help them continue serving Airbus even though its main assembly lines are located thousands of kilometres away
  - R&D projects in order to adapt and target new markets
  - Shared facilities and personnel in order to reduce their costs…

- **Action 3: Job markets**

  Many workers may still have to be laid off.
  - Polish immigrants in Toulouse are given an incentive to help those Airbus employees willing to follow their employer do so. The Open Innovation City invents shared family houses that allow those employees to return to Toulouse when they want, without needing to keep a permanent place to live.
  - The city undertakes a massive, co-operative effort to map the competences of its inhabitants (starting with Airbus's direct and indirect employees, but not limiting itself to them), and provide them with electronic portfolios that help them value these competences on different markets.
  - A job marketplace is organized.

- Another co-operative effort is created to map the new "diaspora" of workers who used to work in Toulouse and have had to move. Toulouse extends worldwide.

- **Action 4: Rebuilding a lively city**

  The departure of Airbus leaves large brownfield, unused areas. It removes more than 30% of the city's financial resources. The city then devolves to its citizens and firms most of the task of reusing the empty space and rebuilding key public services, with some financial incentives, but also a strong call to build sustainable yet inclusive models by themselves.
  - A co-operative mapping and description of the available space is carried out, which allows to market this space internationally.
  - Other spaces are occupied by local firms and communities at little or no cost. Their occupants update the city's maps themselves, and create the necessary shared transportation systems in order to allow people to work, live or entertain themselves there. The city makes sure these are integrated into its overall transport system.
  - Several public services are now produced in part by local communities, with help, training, materials etc. provided by the city.

Challenge #3: Self-Organized Social Services

Going several steps further than David Cameron's "Big Society", Toulouse announces that within 2 years, 90% of its budget for social services will be devolved either to the beneficiaries themselves, or to local (or global) players who can devise more efficient, more personalized and more inclusive ways to provide these services.

- **Action 1: A common mapping of social services**

  Public players and citizen groups coproduce a comprehensive map of social services, beneficiaries, providers, relays and mediators, delivery places...
  This map supports a "marketplace" for services, places, professionals, resources and needs.

- **Action 2: Citizen Social Marketplace**

  Some citizen communities believe that they will best provide some social services, rather than specialized firms. They create a "social marketplace":
  - Where each can list their competences, availability, expectations, needs, resources
  - Where needs can be aggregated and matched with resources
  - Where different means of exchange can be mixed: alternative currencies, "time markets" (an hour of this against an hour of that), etc.

- **Action 3: Building a shared basis to maintain inclusivity**

  In order to avoid devolution to produce a highly unequal social services landscape, the city and its stakeholders:
  - Agree on a "charter" that identifies criteria, priorities, evaluation mechanisms and how they will be discussed, as well as financial schemes
  - Design a set of common platforms that will provide a level of interoperability among services as well as allow beneficiaries to change providers: A common card to access and pay all services (in Euros or an alternative local currency), etc.

Challenge #4: Hacking the Open Innovation City

Some urban actors take advantage of the openness of urban systems, data, services and decision-making processes and turn it towards their own selfish interests.

- **Scenario 1: Open Data reused for omnipresent geomarketing**

  Firms use the abundance of localized data, from traffic to crime to thermal leaks in buildings, in order to precisely target their marketing. Data assumed to be anonymous, once cross-referenced to other data, provide highly sensitive personal information that is abused by companies.
  Possible response: Data reuse licenses prohibiting some uses; Public exposure of abusive behaviours…

- **Scenario 2: Ultra-transparency**

  The extreme level of openness of information and decision-making produces negative or at least highly controversial effects:
  - Social pressure: Individual behaviour deemed to be uncooperative (such as maintaining an energy-intensive way of life) is exposed to the eyes of all.
  - Ultra-legalism: some stakeholders use the available information to find legal loopholes and block all decisions that do not suit their own interests.
  - Inhibition: Open debates linger on, and no strong decision is ever taken.
  - Extreme optimization: the availability of information allows for modelling against all inefficiencies, which become intolerable. But some gains in efficiency require, for example, price discriminations, and can have adverse effects on social inclusion.

  Possible response: Privacy protection; Improved public decision modelling, improved indicators taking into account externalities; Creating a "culture of data" so that citizens are more informed participants in complex public discussion…

- **Scenario 3: Forced privatization**

  The quality of private services that are created thanks to the openness of public information, functions, infrastructures, etc., is such that public players are no longer considered as a legitimate source of many services (think Google Transit or Google Books). As a result, many of the data, functions and infrastructures that used to be public become private, or at least privately-run – and cease to be as open as they were. The city's openness ends up reducing the level of openness, or even, reducing the level of accessibility to some key services by those who do not have the means to pay for them…
  Possible response: differentiating infrastructure (hard and soft), which should remain a public good, and services. Allow public players to compete with private players…

- **Scenario 4: Overexploitation of scarce resources ("Tragedy of the commons")**

  The success of the Open Innovation City produces numerous initiatives and innovations that compete for a number of scarce urban resources: public space, attention, wave spectrum… In vying for people's attention, they can also produce information overload as well as visual and sound pollution. The whole city starts looking and sounding like Times Square or Shibuya.
  Possible response: managing (physical) scarce resources differently from information, digital services and other abundant resources…

- **Scenario 5: Terrorism**

Terrorists use the masses of available information to precisely target their actions, or to imagine unconventional actions: Shut down key urban systems, create anarchy by falsifying data in traffic management systems, etc.
Possible response: Not all information and systems can be open…

What does (or doesn't) each player do in the Open Innovation City? [Micro level]

From the point of view of an elected city councillor:

- The city acts as a mediator rather than as a service provider
- It mixes bottom-up and top-down actions
- It focuses on organizing and enriching democratic life
- It devolves many decisions to a co-development Council
- It pays constant attention to experimentation and feedback

From the point of view of a city employee:

- The job evolves from that of decision-maker or service provider to that of expert and orchestrator
- The city provides infrastructures, both hard (networks of all kinds, places…) and soft (information, basic functions) upon which others can build services or public discussions. Its job is to make sure these infrastructures remain public and open, as well as reliable, secure, interoperable, and protective of individual and civil liberties.
- The closer link to other urban actors allows for a much better understanding of needs and evaluation of policies.

From the point of view of an entrepreneur:

- It is easier to think of projects, prototype them and experiment them in public space
- If the experimentation is successful, It's easier to reach out to the public and scale up

From the point of view of a citizen:

- Neighbourhood councils are given tools and data in order to work in much more efficient ways, not just discussing issues and formulating advice, but actually designing and implementing solutions to local problems: maps, data processing and visualization tools, simulators…
- The urban actors "ecosystem", that includes public institutions, small and large enterprises, associations, informal communities… is more closely linked, more co-operative.
- It is easy to move from the status of voting citizen or service user, to that of discussant, or innovator – the road from expressing a need to (co)designing and trying out a solution is short, easy and (since it's not a lonely road) even pleasant.

From the point of view of a researcher:

- The city is much more transparent and open to thorough analysis of its workings, its decision processes, etc.

- The city is a treasure of data
- Researchers are not just watchers, they are participants if the Open Innovation City

What does the Open Innovation City rest upon? [Meso level]

Shared "hard" and "soft" infrastructures

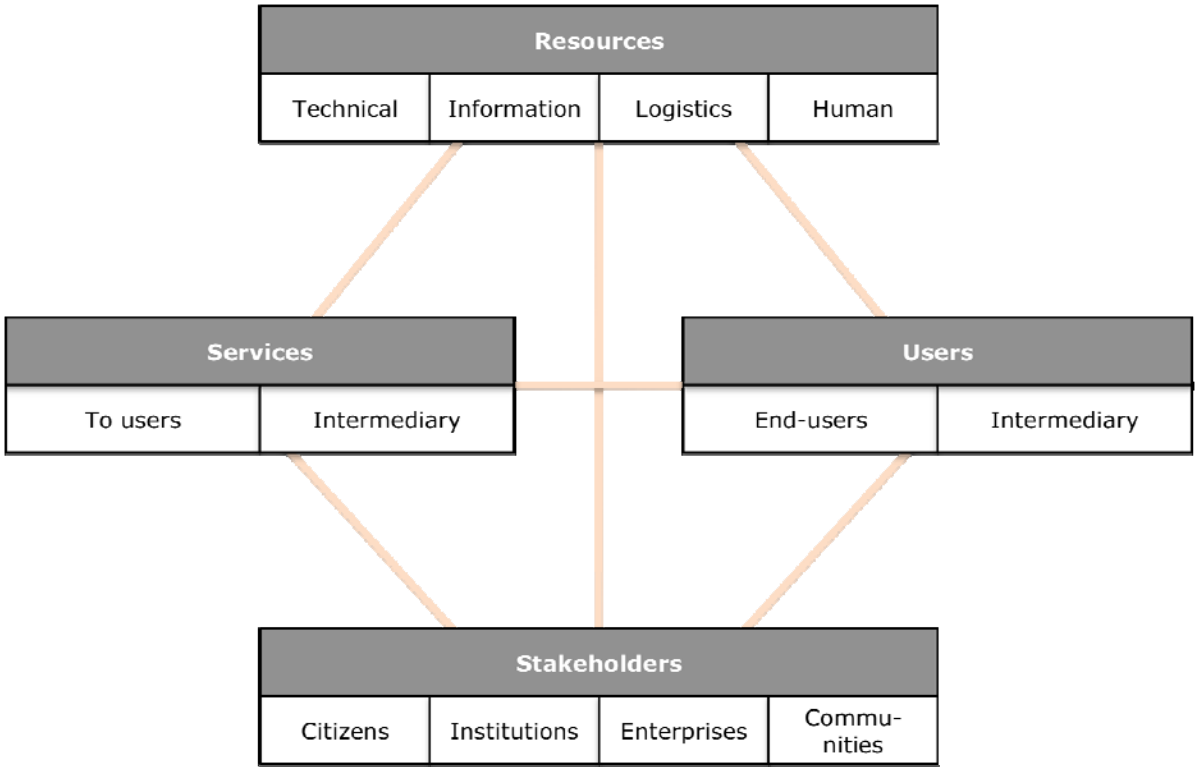
Open Innovation requires a High level of shared, common resources. Those are both hard and soft resources:

- Hard: networks (roads, energy, télécom…), places (shared places for discussion, production, service delivery…)
- Soft: information and data, software (eg, visualization, mapping, simulation, calculation), interfaces to existing applications ("Application programming interfaces" allowing to use public applications), means of communication (from billboards to local media to online spaces)…

Part of the role of public institutions becomes to either create and run these infrastructure, or to support those who do it, and to make sure they can not be misappropriated.

The need for "platforms"

Therefore, in the "Open Innovation City", a number of platforms need to emerge in order to manage the public "soft" and "hard" infrastructures.



The role of platforms is to:

- Reduce costs for all players, both in terms of investment and operations: platforms mutualise resources, reduce transaction costs, etc.
- Make accessing urban resources easier for the public, and make it easier for innovators to reach the public
- Facilitate the exchange of idea and projects, and the building of partnerships
- Reduce risks to all players, on an individual level (as user or innovator) as well as a systemic level (make sure one innovative idea will not disrupt the normal functioning of other key services)
- Regulate the relationships between actors of the Open Innovation City

There will probably be several "platforms", some complementary, some competing with one another: digital platforms, community places, specialized platforms (eg, platforms for multimodal mobility)… Part of the work of municipal institutions will be to deal with these platforms, recognize the new ones, ensure compatibility and interoperability, etc.

Platforms require platform managers

- They act as mediators, regulators and sometimes conflict managers
- They facilitate projects and discussions
- They organize feedback and outreach
- They take care of the platforms' neutrality and openness
- They are in charge of a constant foresight discussion

This city uses Information and Communication technologies is a way that is different from the current way of considering them in most organizations

- Their main goal is not to automate and optimize existing processes, but to share information, support innovation, facilitate informed public discussions and provide constant feedback
- They intend to provide a large diversity of large and small projects
- They welcome hacks

Conclusions [pros and cons...]

In contrast to INFU's "City-Driven Innovation" vision, in the Open Innovation City, municipal institutions see themselves, not as innovators coming up with good solutions to urban woes and marketing them to other cities, but as supporters of an innovation ecosystem.

This ecosystem is made up of… all citizens, as individuals or professionals. It is made up of large and small companies, some specialized in urban services, some not; of associations and informal communities; of researchers; and of the public servants and public agencies themselves, who are not barred from innovating themselves, but who are just one player among many.

The power of such a vision, which is well documented in Open Innovation literature, and perhaps best illustrated in the history of the Internet, is that it provides the highest likelihood for both breakthrough innovations (which invariably stem from the most unlikely places) and small,

incremental innovation that may be needed to make a system more efficient, or to facilitate access to a very specific population. By empowering all actors in the city, it has the potential to make it both more economically innovative (and attractive), more culturally vibrant, more cohesive.

There are also risks associated to this approach. They can be classified in 4 categories:

- Appropriation: the means to innovate are very unevenly used and mostly appropriated by a few, well-funded and well-organized players who end up edging out smaller players, citizens and even public institutions.
- Incoherence: innovative services and actions add complexity rather than simplicity, and pursue incompatible objectives. As an example, various mobility-oriented initiatives may, if they are not co-ordinated, end up in creating congestion in some places while other lack mobility resources.
- Instability: stimulation of open innovation and empowering overall creativity may lead to an on-going transitory situation where places are in continuous transformation, services are permanently work-in-progress lacking of reliability and stability.
- Abuse (see challenge #4): An Open city gives away lots of information that may be abused by lobbies, merchants or terrorists.

Therefore, the Open Innovation City needs political vision and guidance. It requires public institutions to change stance, but not to remove themselves from the game. In many case, they need to evolve from being service providers, to being infrastructure providers, to facilitate innovation and to regulate the resulting landscape of players, representations, and services. Evolving from the current situation to becoming an Open Innovation City requires time, experimentation, evaluation, benchmarking, and ongoing discussion among all stakeholders.

Annex 1: Participants

The workshop took place at the Piazza location at the Centre Georges Pompidou in Beaubourg, Paris the 11th October 2010 from 10:00 to 14:30.
Participants were:

- Hugues Aubin (Rennes City Council)
- Catherine Barbé (Sustainable City Institute, Paris)
- Boris Beaude (geographer, EPFL, Switzerland)
- Mohammed Benabbou (Villeneuve d'Ascq City Council)
- Amandine Brugière (Fing)
- Jean-Philippe Clément (Paris City Council)
- Philippe Durance (Cnam)
- Loïc Hay (Artesi Ile de France)
- Emile Hooge (nova7.fr)
- Paul Labrogère (Alcatel Lucent Bell Labs)
- Yann Le Tilly (CanalTP)
- Thierry Marcou (Fing)
- Bruno Marzloff (Chronos)

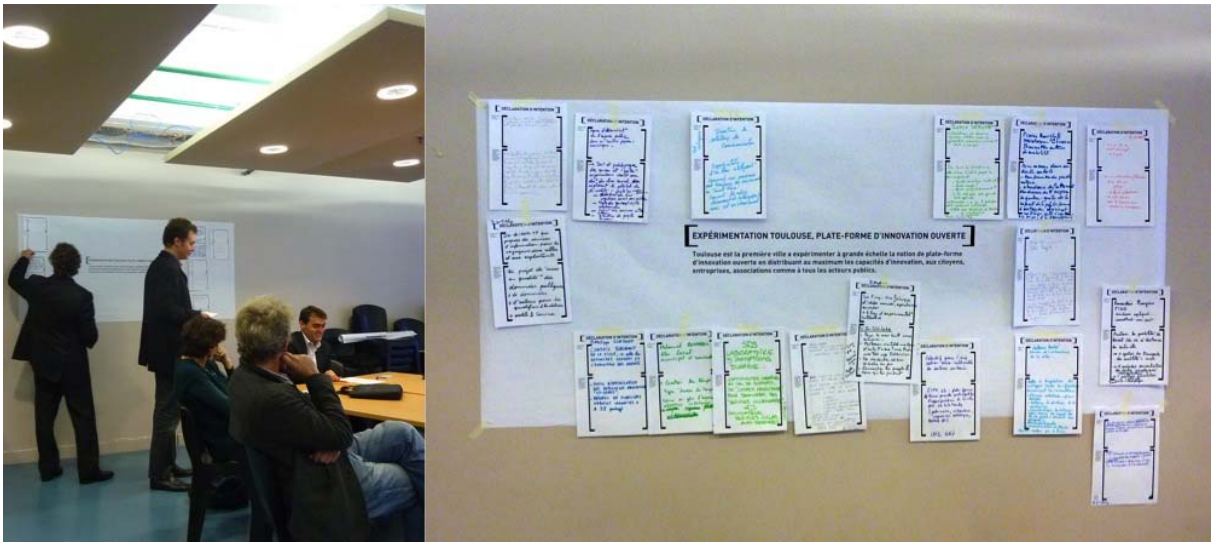
- Valérie Peugeot (Orange Labs)
- Philippe de Tilbourg (Greater Bordeaux Council)
- Daniel Kaplan (Fing – facilitator)
- François Jégou (SDS – co-facilitator)

Annex 2: panel process...

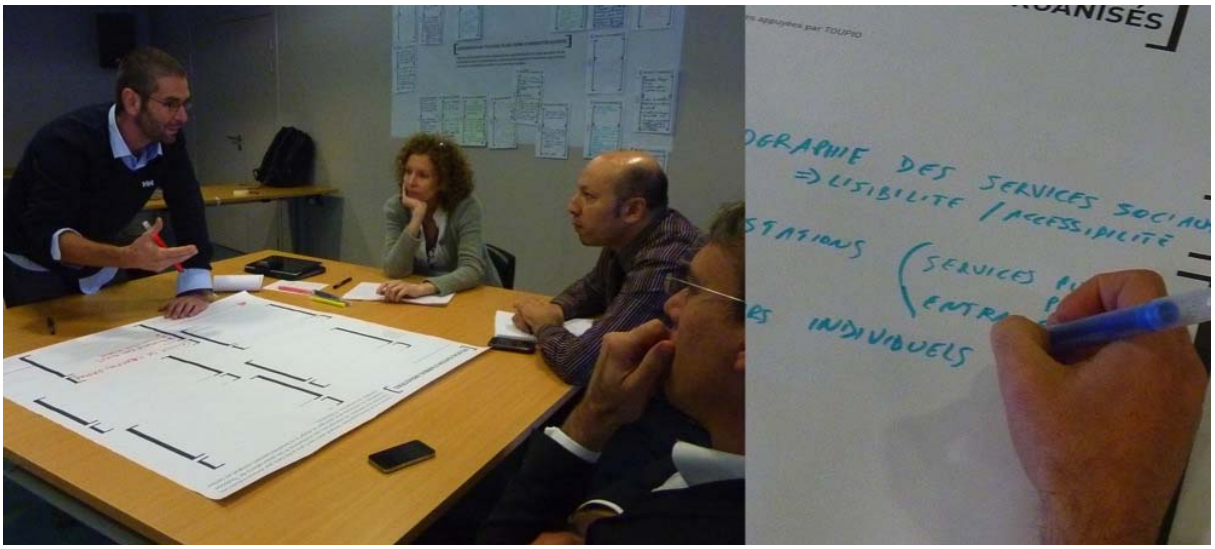
The Panel took place in a meeting room belonging to the Centre Georges Pompidou in the centre of Paris. The hypothesis of the city of Toulouse announcing in 2012 to experiment an 'Open Innovation Platform' was proposed as kick-off of the session.

Pp

Participants were invited to "declare themselves" individually, indicating what they, from their professional or citizen point of view, were willing to undertake with the city in this new context.



The goal was to add flesh to the concept of "the Open Innovation City", from the point of view of the actors themselves.



Participants were then divided in 4 groups. Each had to deal with one challenge the city gave itself or had to face within the next 20 years.

Each group came up with 4-5 initiatives that could stem out of the Open Innovation City in response to these challenges.

Finally, the participants were asked to individually describe their organization's, or their profession's, position and evolution 20 years from now, reflecting on their relationship to other urban actors and to the city as an institution.

A1.

A5. INFU-Mini-Panel: Widespread Creativity

GLOBAL
INNOVATION
STUDIO

VISION A FUTURE INNOVATION LANDSCAPE 2030

“WIDESPREAD CREATIVITY”

VILNIUS
2010

Background

The vision “Widespread creativity” is based on INFU vision 10 ***“Innovation Imperative”***

What if the current emphasis on innovation and creativity for designers, programmers and engineers spreads to all workplaces? All employees from the janitor to top management are constantly involved into innovation activities. Creativity is part of any jobs daily routine and is key in performance measurements. Part of the job is to redefine the job it self.

Possible elements for integration:

- the INFU vision 5 “ ***Public Experimentation”***

What if experimenting aligned social and technological innovation would be at the core of successful innovation systems? Public authorities strive to foster a permanent stage of social experimentation through a loosely connected network of local bottom up projects. Enablers for collective experimentation such as innovation toolkits form the critical infrastructure for public experimentation;

- the INFU vision 15 ***“Innovation meets education”***

What if innovation skills would be high on the education agenda right from kindergarden? Children are motivated to maintain their “discovery spirits” and learn how to question facts and think things differently. Learning is project oriented with a high emphasis on bricolage. Innovation becomes something that is taught as a matter of course, just like the ABC.

Creativity sessions for vision development.

Two creativity sessions have been organised for the vision development. 5 members of Global Innovation Studio participated in the sessions:

- Zilvinas Jancioras (innovation and IT expert);
- Antanas Zabielavicius (artist, designer, innovation expert);
- Evgenij Graciov (innovation expert);
- Rimvydas Bareika (innovation expert);
- Rolandas Strazdas (innovation expert).

During the first creativity session the main concept for visioning has been developed. The idea of the concept of the visioning was to try link trends (past, now and future) of some important elements for innovations development. The trends have been analysed for Macro, Meso and Micro level.

In order to fulfil the concept the 9 images have been developed:

- 3 images for macro level (past, now, vision);
- 3 images for meso level (past, now, vision);
- 3 images for micro level (past, now, vision).

The second creativity session have been organised aiming at enriching the images with details and to focus on different aspects of innovations. Visual ideas generation method - “O generator” have been used for this tasks (see pictures below)

Second visioning session at Global Innovation Studio

As a vision for 2030 new types of innovations such as Relations Innovation, Traditions Innovation, Innovations on creativity stimulations have been discussed (see picture below).

New types of innovations discussed

More on types and sources of innovation in 2030 is presented in section 2.1. of the report.

Description of the vision "Widespread creativity"

"I'm always thinking about creating.
My future starts when I wake up every morning . . .
Every day I find something creative to do with my life."
Miles Davis

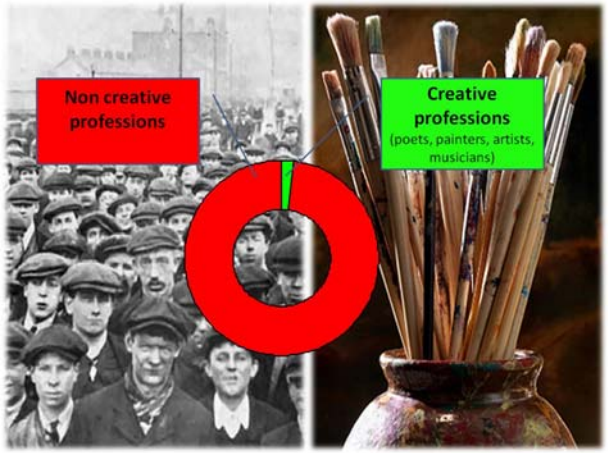
Miles Davis (1926 – 1991) one of the most influential musicians of the 20th century. Miles Davis was, with his musical groups, at the forefront of several major developments in jazz music, including bebop, cool jazz, hard bop, modal jazz, and jazz fusion.
…..Every day I find something creative to do with my life…… How many people in our society can say this about his/her life. The vision 2030 "Widespread creativity" is to make and feel more and more people like Mile Davis.
It is no doubt that if more and more people will say ….. *I'm always thinking about creating…..*we will see dramatic positive changes in all aspects of our life. The vision 2030 "Widespread creativity" is that people from all professions from janitor to top managers can be able say similar to as Miles Davis said.

Different aspects of innovation

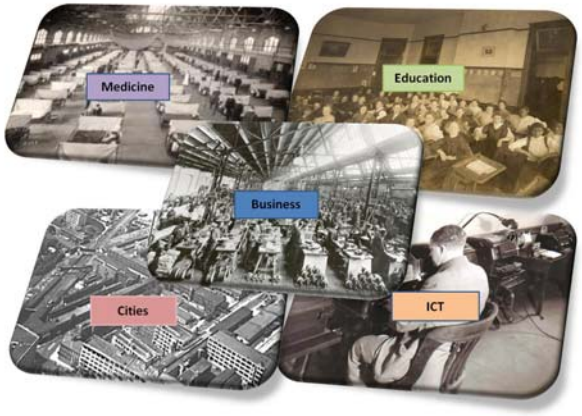
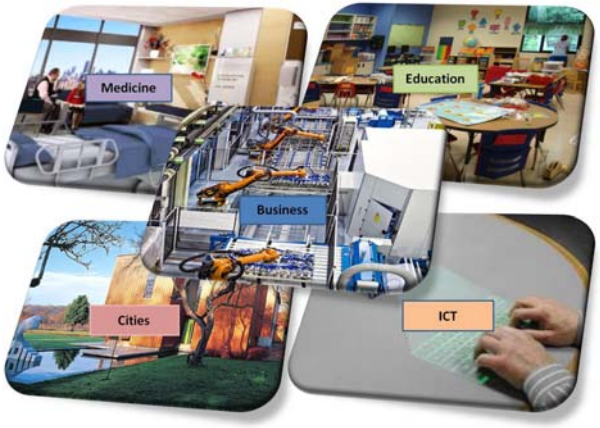
As a part of Vision 2030 “Widespread creativity” some changes could be foreseen in structure and source of innovations: .

- ***Focus on open innovation instead traditional closed innovations****.* The companies will involve more and more people (customers, suppliers, inventors, scientists, students, kids, housekeepers and etc in the process of innovation development). The companies will develop processes and methods how to involve and manage masses of people for innovation development;
- ***More focus on process innovation.*** Employees will be actively involved in the process innovation (how to do better, faster, cheaper and etc.) development in the companies. Even for the end customers more emphasis will be given not only for the product characteristics, but for process innovation (how to used the developed product, tools and etc.);
- ***Open creativity***. Creators will use more open licenses like *Creative commons*, *copyleft*, *public domain*, more and more creations will be done by networked groups of creators;
- ***Green innovations.*** Populations still be more and more interesting how to make our environment more clean and healthy. Private and public sector will spend money on these issues.
- ***Relations innovations.*** Increasing of virtual life in some extend will ruin traditional relations and communications between people. This will bring new problems (misunderstanding, conflicts and etc.) in relations between employees, families and etc. The demand for relations innovations (methods, tools, processes and etc.) will increase;
- ***Innovations on creativity skills development.*** As the companies competitive advantage will be based on human creativity it will be big demand on innovations how to develop creativity skills more effective;
- ***Traditions Innovations.*** In rapid changing society it is risk to lose traditions which are very important for identity of people, diversity of society and etc. It will be a big issue how to incorporate traditions in the newly established living environment.
- ***Entertainment / self-realization innovations.*** People will have more and more free time and resources (due to automation, increase of productivity and etc.). It is getting more important issue what to do with excess of free time and money of society.
- ***Medical innovations.*** Ageing of population will arise needs for new treatment methods, medicine and etc., so medical innovation will have big demand;

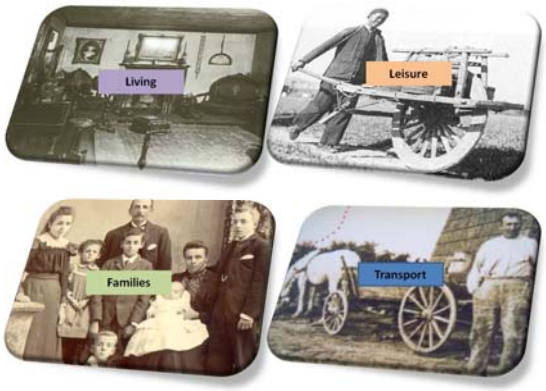
Vision 2030 "Widespread creativity" - Macro-Level

Past	Now	Vision 2030
Exclusive creativity	Minority creativity	Widespread creativity
		
Description: - Very limited number of society are able to buy unique products; - Mass production. Demand exceeded supply. Not big competition; - Only artists (painters, poets, musicians) are considered to be creative. - Vast majority of society are employed in non creative industries to perform standards operations.	Description; - Substantial part of society are able to buy unique products; - Supply exceeding demand. Big competition. Increase global competition; - Innovation and creativity started to be recognized as very important source for increase competitiveness of the companies; - Expanding understanding of creativity. Technical creativity agreed to be as a part of creativity. The architects, engineers, scientists, designers considered as creative professions; - Increase number of people working in the creative industries.	Description: - Major part of society are able to buy unique products; - Very big global competition; - Labour intensive production moved to the cheap labour force countries; - All industries are treated as creative due to the increase importance of innovation at every industry; - Competitive advantage of the companies will be based on thinking (creative) people. Change the role of managers from directors to facilitators; - Needs of creativity will increase substantially It is accepted that all professions are creative; - Even the public sector recognised importance of creativity.

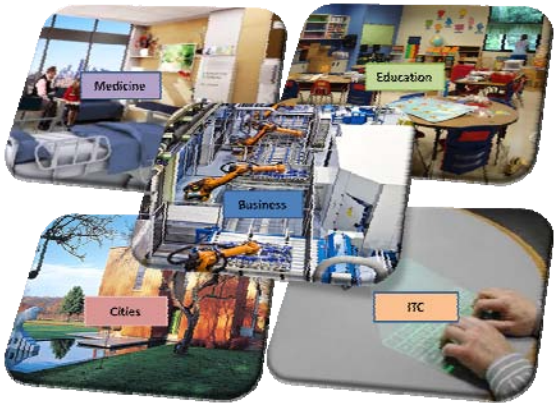
Vision 2030 “Widespread creativity” - Meso-Level

Past	Now	Vision 2030
Exclusive creativity	Minority creativity	Widespread creativity
		
Description: - ***Education.*** Mass education. Big classes. Education based on discipline, logical and convergent thinking developing. Art disciplines and creativity skills development are treated as not important; - ***Business.*** Domination of traditional industries and agriculture. Big companies. It is enough to have only few thinking (creative) people at the company. Rest of employees have to do as they are told; - ***Medicine.*** Mass medical care. Standard treatment methods and facilities; - ***ICT***. Primitive, very expansive, exclusive (only for rich part of society); - ***Cities.*** Industrial cities with big areas for industrial companies and living houses for their employees. Some small areas for art people and entertainment.	Description: - ***Education.*** Group education. Smaller classes. Still based on logical and convergent thinking developing, but recognised importance of creativity and divergent skills development. - ***Business.*** Dominating service companies (financial sector, entertainment and etc.) but traditional industries still plays a big role in the economy. It is not enough to have only few thinking (creative) people at the company. Creative units are established (marketing, design, new product development and etc. ; - ***Medicine.*** Specialisation of doctors according diseases and patient; - ***ICT***. More and more useful ICT tools for majority of society; - ***Cities.*** Traditional industries moved from the cities. Areas for financial services, offices, shopping and leisure are established.	Description: - ***Education.*** Individual education. Education is based on individual and group creativity skills development starting from kindergarden. Even kids are involved in innovation project development. New teaching methods as edutainment (education based on entertainment) are emerged. No traditional classes, no traditional lessons. No teachers, but tutors and coachers instead. - ***Business.*** Dominating creative industries (business based on human creativity). Even traditional industries (automotive, textile, furniture and etc.) became part of creative industry. Non creative elements of business are automated. Every employee is involved in process innovation development. Product innovation is developed with involvement not only staff, but also customers, suppliers and other member of society (widespread open innovation). - ***Medicine.*** Individualised treatment. Holistic view on individual patient; - ***ICT***. As necessary tool for creating and communication; - ***Cities.*** Creative activities moved from the city centres. Creative activities are taken place mainly in home offices or in creative valleys (the territory outside the city centre and good environment for creativity - quiet, close to the nature and etc.). City centres became a big entertainment and shopping areas where creativity results are demonstrated.

Vision 2030 “Widespread creativity” - Micro-Level

Past	Now	Vision 2030
Exclusive creativity 	Minority creativity 	Widespread creativity 
Description: - **Families**. Big families. Hierarchical structures. Discipline, rules, duties. No time for individual communication. - **Leisure.** Almost no leisure. No free time. Hard work, work, work.... Focus on surviving. In order to get money for surviving, all the family member had to work hard physically; - **Living.** Small houses or rooms for big family. No private space. Internal competitions. No tools, equipment to make home care easier. - **Transport, travelling, communication.** No travelling or travelling only small distances. Horses were the main type of transport. - **Innovation and creativity.** No time for innovation. Long life circle for innovation. Only small scale innovation for daily work. Art can be only as a hobby or fun but not real profession. Creative people considered as a strange, not reliable, fun, poor...	Description: - **Families**. Small families (1-2 kids). Flat structure no hierarchy. Focus on kids and individuality. - **Leisure.** Still majority time is spend on work but is more time for leisure. Work is less physical. Focus on finding balance between job and hobby. More time for travel, gardening, interior decoration, reading and hobby. - **Living.** Bigger houses or rooms. More private space. More facilities for creativity and home innovations. - **Transport, travelling, communication.** More travelling. More virtual and international communication. More ideas and inspiration for innovations. - **Innovation and creativity.** More time for innovation. Shortening product life circle. Art can be profitable profession not only fun. Creative people getting respect in society.	Description: - **Families**. Very small families (normally 1 kids and single parent). Kids’ domination in the family. Focus on freedom, no discipline sometimes leading to chaos. Each person is treated as individual and creative. - **Leisure.** No clear distinguish between job and leisure. Work is mainly to create something new better, more interesting. Focus on fun, self-realisation. More time for travelling, entertainment hobby. Big differentiation between successful creators and not successful creators (“not understood genius”). Not successful creators are engaged in virtual life, narcotics, alcohol and etc. - **Living.** Big differentiation in living. Some lives in Individual houses or big flats some are living in creative communities based on hobby, interests and etc. of people. Public authorities and companies are providing excellent facilities for creativity and innovations. My home my company. I am company. - **Transport, travelling, communication.** Domination of electrical or other alternative energy transport. Big internal and global migration. - **Innovation and creativity.** Much more time for innovation. Dominating leisure, entertainment, education, process innovation. Short product life circle similar to the fashion industry. Everyone is considered unique and creative.

Vision 2030 "Widespread creativity (micro, meso and macro level)

Micro level	Meso level	Macro level
		
Description: - **Families**. Very small families (normally 1 kids and single parent). Kids' domination in the family. Focus on freedom, no discipline sometimes leading to chaos. Each person is treated as individual unique and creative. - **Leisure.** No clear distinguish between job and leisure. Work is mainly to create something new better, more interesting. Focus on fun, self-realisation. More time for travelling, entertainment hobby. Big differentiation between successful creators and not successful creators ("not understood genius"). Not successful creators are engaged in virtual life, narcotics, alcohol and etc. - **Living.** Big differentiation in living. Some lives in Individual houses or big flats some are living in creative communities based on hobby, interests and etc. of people. Public authorities and companies are providing excellent facilities for creativity and innovations. My home my company. I am company. - **Transport, travelling, communication.** Domination of electrical or other alternative energy transport. Big internal and global migration. - **Innovation and creativity.** Much more time for innovation. Dominating leisure, entertainment, education, process innovation. Short product life circle similar to the fashion industry. Everyone is considered unique and creative.	Description: - ***Education.*** Individual education. Education is based on individual and group creativity skills development starting from kindergarden. Even kids are involved in innovation project development. New teaching methods as edutainment (education based on entertainment) are emerged. No traditional classes, no traditional lessons. No teachers, but tutors and coachers instead. - ***Business.*** Dominating creative industries (business based on human creativity). Even traditional industries (automotive, textile, furniture and etc.) became part of creative industry). Non creative elements of business are automated. Every employee is involved in process innovation development. Product innovation is developed with involvement not only staff, but also customers, suppliers and other member of society (widespread open innovation). - ***Medicine.*** Individualised treatment. Holistic view on individual patient. - ***ICT***. As necessary tool for creating and communication. - ***Cities.*** Creative activities moved from the city centres. Creative activities are taken place mainly in home offices or in creative valleys (the territory outside the city centre and good environment for creativity - quiet, close to the nature and etc.). City centres became a big entertainment and shopping areas where creativity results are demonstrated.	Description: - Major part of society are able to buy unique products; - Very big global competition; - Labour intensive production move to the cheap labour force countries; - All industries are treated as creative due to the increase importance of innovation at every industry; - Competitive advantage of the companies will be based on thinking (creative) people. Change the role of managers from directors to facilitators; - Needs of creativity will increase substantially It is accepted that all professions are creative; - Even the public sector recognised importance of creativity.

Summary of the main arguments behind the vision including possible "dark sides"

"The future is already here – it's just not very evenly distributed"
William Gibson (science fiction writer)

The main arguments behind the vision could be based on the existing trends:

- ***Education more focusing on creativity skills development.*** It is clear trend that education is more focusing on individuality of people. Classes are getting smaller. Creativity skills development is getting more and more important. Families are having more time and resources to focus and invest on their kids individual skills development, social and communication skills equivalent or more needed than knowledge;
- ***More and more companies are putting emphasis on innovations and continuous improvements.*** It is clear trend that more companies are starting involve their staff in continuous improvement efforts (Kaizen) and innovating development. Toyota Productions Systems, Lean, Six sigma and other popular management systems are emphasizing on development of "thinking people". It is clearly shoe that Involving staff in the continuous improvement and innovations processes brings to the companies huge competitive advantage;
- ***More free time and money.***, Society are getting more and more free time and money due to the automation, increasing of productivity and etc. The time and money could be used for self- realization. One of the best ways for self – realization is to create. It is clear trend that more and more people starting to create (painting, photos, video, music, home decoration, gardening, interior design and etc.);
- ***Collapse of hierarchical systems.*** It is getting clear that hierarchical structures are not able compete versus flat structures. It is clear change from "boss- subordinate" relations towards "partner –partner" relations. Power distance becoming smaller and smaller in companies, families and whole society. People are getting more tolerant, free and open. This creates very good environment for innovations development.

"Dark sides" of the visions:

- **Shrinking middle class.** Increasing distance between rich and poor people. It might be that poor people will not able to develop creativity skills for their kids. These people will not be able to develop innovation and will not able to find proper jobs. If they will not able to create most probable they will be able to destroy. Is a big risk to violence in a society;
- **Labor intensive jobs moving to cheaper labor countries**. It is a big risk that after the labor intensive jobs will also move knowledge/creativity intensive jobs. In this case Europe can face big unemployment crisis;

- **Ageing populations**. It is big risk that in order to keep high social welfare standard for pensioners, the governments have to borrow or to increase taxes for business. This can foster moving business (also jobs) to other countries with lover taxes. It also possible that other countries with younger populations will be creative and more active that older societies. The countries with older populations can lose competitive advantage;
- **Too short life circle of innovations**. If the innovations life circle will became too short it might be not possible to get the pay back from the innovation. This will lead to the to foster reduce the costs of innovations development by moving innovation development in the countries with the cheaper labor force.

Outline of drivers and barriers promoting/blocking the realization of the vision

Drivers of promoting the realization of the vision:

- **Public authorities and politicians.** This vision is in line with the Lisbon strategy. It gives a light at the end of economic tunnel. There is almost no alternatives how to compete with cheaper labor countries except increase innovativeness;
- **Creative industries.** The creative industries are now in process of realization of the vision for themselves. If the vision will be accepted by the public authority and all society they can benefit from it (more creative employees, public support, increase the demand of creative product, increase the reputation and importance of creative industries;
- **Other progressive business.** The progressive business well understands that competitive advantage of their companies is based also on good suppliers. If majority of the European business will increase competitiveness from the innovations and creativity of their employees it means some of them could be better suppliers for them. For an example if a company wants to reduce the cost or increase quality of the production it is much easier if all the suppliers will reduce the cost and quality of their productions. The implementation of the visions will increase global competitiveness of European business.

Barriers of promoting the realization of the vision:

- **Narrow understanding of creativity and innovations.** Still majority of society thinks that creativity if only for art and exclusive/ talented people. Innovations are mainly related to the product innovations and high –tech inventions. As the majority of society thinks that they are not creative and innovative, they can try to block the realization of the vision;
- **Traditional education.** Some teaching institutions still are based on traditional training methods and training programs. It takes time and efforts to change

and to learn how to teach creative individuals. These institutions and teachers can be against the vision.

- **The lack of resources.** In some cases individual teaching and creativity skills development requires more resources. The lack of resources can block realization of the vision;
- **Conflict between discipline and freedom.** One very important prerequisite for the creativity is freedom. No freedom – no creativity. But for the creativity and innovations it is also needed discipline. It is not easy to keep balance between freedom and discipline. No discipline can lead to chaos. It is always temptation to use the autocratic managing methods in order to cope with the chaos. Some part of society can be scared to lose control and to move to the chaos if creativity will be widespread. It can be applied to all levels of the society from family, companies, cities, region counties level.
- **Traditions.** The people, who are keen in preserving traditions, can fare that the realization of the vision can destroy existing traditions.
- **Anti-globalists**. These people in principle are against innovations and development. They will be afraid that realization of the vision will increase the dominance of global corporations.

-

A6. Innocamps obstacles and enabling policies

Riel Miller
xperidox futures consulting
4 rue Perrault, Paris, France 75001
phone: +336 3239 1360
email: rielm@yahoo.com
web: www.rielmiller.com
twitter: RielM

This brief note is, in part, the fruit of an intensive discussion around the Innocamp idea that occurred at the INFU – Innovation Futures workshop held in Berlin on October 29, 2010. In the following I will use a scenario about the future to help reveal some potential options for policy in the present.

Innocamps in the Learning Intensive Society (LIS)

The date is: 2030. The place: the imaginary scenario of the Learning Intensive Society[4]. In this scenario Innocamps have become diverse and ubiquitous, part of a social and economic system that is no longer organized into firms and workplaces, but in projects and communities. As described in the Documentation of the INFU Visioning Exercise[5], this is a radically different world; one where the financial, health care, education, research, justice, production and even spiritual systems have been transformed.

At the core, the most basic level of what is produced, what is traded, what is valued – are the activities that today, in 2010, we would call learning. Learning predominates as the main (proportionately most important) flow and stock of wealth. Learning is the main form of investment, the "production process" that occupies the most time and resources in society. Learning is dominant like industry was once dominant. It is the predominance of learning as an activity that has made Innocamps one of the central institutions of 2030. Like in the industrial era the firm was the dominant institutional form for organizing industrial activity, in the LIS Innocamps are the main way of organizing learning.

Why are Innocamps so central to the functioning of the Learning Intensive Society? The answer is to be found in the radically different socio-economic conditions that define the LIS; a difference that can be illustrated, in part, by the roles now played by learning and innovation. In the context of the Learning Intensive Society of 2030 the meaning of these two terms has changed profoundly from the industrial era. Perhaps the most striking difference, one that is hard to even comprehend from the point-of-view of 2010, is that the production of value (things, ideas, experiences) is largely outside a hierarchical framework.

This means economic output is embodied in unique creations, not mass products. Both the value and content of these unique creations arises primarily from the personal, self-referential attributes of the product. Unlike income, which is obviously measured and understood using a hierarchical scale or an iphone which can be evaluated primarily using hierarchical metrics related to: functionality, status, price; unique creations are in large part not comparable in hierarchical terms. Unique creations are primarily heterarchical.

[4] Miller, Riel, (2006) "Equity in a 21st Century Learning Intensive Society: Is Schooling Part of the Solution?", Foresight, Emerald, Volume 8, Issue 4. See also Miller, Riel „Rules for Radicals" series at www.rielmiller.com
[5] See http://untilweseenewland.com/2010/10/29/infu-innovation-futures/

Happiness is a good example of something that is heterarchical – although there are many common attributes to happiness and some metrics may be shared, the happiness of one person is not really comparable to that of another person. Whose happiness is better or worse, higher or lower, more or less genuine, more or less valuable? Thus, in an economy and society where much of the value production is related to specific moments of identity and community creation, the role of hierarchical processes and products is no longer the same. This has profound implications for the nature of what is produced and hence how production is organized.

In the LIS only a very small fraction of investment (financial and time) is in products or services that are be created using the organizational approaches of scale economies or enterprise based shared overheads. The old industrial economy is still around, immensely productive and in its narrow, mass-oriented way fantastically innovative. It was sort of ironic, but the decline in importance of innovation in terms of resource allocation was partly due to the success of industrial innovation policies and advances in so-called knowledge management. Now proportionately fewer engineers and fewer firms dedicated to producing mass-products are able to supply those industrial inputs still essential for daily-life, but like agriculture in the 20th century the locus of activity has moved elsewhere.

Most innovation today is far away from the engineer's technical refinement or the manager's organizational efficiency of specialized conception and execution or even the pooling of back-office costs across many "employees". Innovation today is more akin to the acquisition of "wisdom", it is the process of personal identity creation, the learning that gradually defines the social creature called a human. As such LIS innovation is primarily heterarchical and happens through what might be called "refinement of taste": the learning that occurs during a person's voyage through life. It is the nature of the content of value creation that privileges Innocamps as a way of organizing "productive" activity.

Innocamps, like firms in the industrial era, are the enabling organizational form that fosters the immense, murmuration[6] like fluidity of the LIS. Innocamps are that ubiquitous coming together of people, the easy, almost costless birth, death, entry and exit that marks the fluidity of creative communities, inspirational idea colaboratories of the LIS. When you want to do something, engage in a learning activity, you create or join an Innocamp – which may last a few minutes or years, may address the customization of one of your avatars or your "innerpage" (the personal virtual-self repository), or may call on hundreds of millions of people to take on a major ecological initiative or eradicate a disease.

Innocamps are collective processes, running the gamut from ephemeral subjectively motivated and focused experiments to immense resilient and path-dependent projects, but always deeply influenced by the collective nature of both sense making and meaningfulness. Such collaboration can only work because of three sets of critical changes:

1. One was expected and well underway back in 2010, this was the rapid improvement in all of the technical aspects of the Internet. Here it was simply a question of the continuation of existing trends, the successful extrapolation of better and cheaper connectivity and connected interfaces along with the growth of web sites, social "web 2.0" interaction, and data-information-knowledge of all kinds. Web interfaces became smaller, more mobile but also more "natural" with seamless language and movement interactivity. Even the ecological footprint, in relative terms, of all these electronically run gadgets improved, particularly once the server farms of the "cloud" were moved

[6] See video of a murmuration http://www.youtube.com/watch?v=MIzlcH2q6Vo

into cold, sun-energized orbit. Lastly, as expected, "desktop factories" (sophisticated three dimensional printers using a range of new and old materials), significantly reduced international trade in manufactured goods, even in the construction sector.

2. Much less expected and much more important as an enabling change was a paradigmatic break, a step-change in decision-making capacity. The easiest and most obvious historical comparison was the introduction of universal numeracy and literacy in the industrial era. As we know from this historical example (one that is still underway in many industrializing parts of the world), altering the ambient capabilities of the population as a whole also transforms the potential for new forms of economic, social and political activity. As it turns out this type of change was once again what really made the difference with respect to the operational practicality of the Innocamp murmuration as a way of organizing everyday life. The key breakthrough was the introduction of something called Futures Literacy. Futures Literacy significantly improves people's capacity to "use the future"; breaking the hold of industrial era habits of planning and risk management by providing a workable and meaningful alternative. This was the critical ingredient for letting go of the "firm-job" way of organizing productive activity towards much more fluid, spontaneous and improvisational organization around task based activities. Today we no longer colonize and lock-in the future as a way to justify today's actions by tomorrow's expected outcomes. We have also shifted as rigorously and systematically as possible towards diversification and fault-tolerance as a risk management approach, away from the fail-safe and path-dependent methods that were given such pride of place in the industrial, material obsessed social orders of the past.
3. A third part of the Innocamps murmuration story of today is an inter-dependent system made up of a constellation of new institutions and norms. As it turned out the creative destruction of the industrial era's decline was much more violent and devastating than expected. As usual the dead hand of the past weighed heavily[7] and throwing it off was not only costly but required a passing of generations. Emergence was painful, involving significant reallocations of power and of the people in power, but it happened. The most prominent features of today's system are:
    a. **Cybercitizenship** is granted automatically to every person providing an anchor for the dominant forms of "belonging" (responsibilities and rights) and wealth that are institutionalized predominantly through (see below) Identity Based Communities (IBCs) and Knowbanks.
    b. **Identity Based Communities** (IBCs) are the primary form of belonging or being part-of a community, IBCs exercise the legitimate use of force, in both physical and virtual communities, mostly through the imposed requirements of in-kind taxation in order to be "part" of a community.
    c. **Knowbanks** and human capital accounting systems enable the ownership, control and transparency/sense-making of your "lifelog" – the detailed life-record and virtual-self repository that collects, from birth, what you have done and are able to do [note: Knowbank assets are the basis for credit systems and the profusion of different monies and the peer-to-peer payment systems tied to Cybercitizenship and Knowbank accounts, there are no more central banks].
    d. **Universal Web Index** (UWI) is a post-Google non-commercial, collectively financed universal library-archive that operates in conjunction with **U-Sense**, a

[7] Marx, K., (1852), The 18th Brumiare of Louis Napoleon, "The tradition of all dead generations weighs like an nightmare on the brains of the living. And just as they seem to be occupied with revolutionizing themselves and things, creating something that did not exist before, precisely in such epochs of revolutionary crisis they anxiously conjure up the spirits of the past to their service, borrowing from them names, battle slogans, and costumes in order to present this new scene in world history in time-honored disguise and borrowed language."

global, public service that uses iterating and folksonomic semantic transparency to make UWI " Search Able".

e. **It's-a-deal** (IDA) is the global contracting infrastructure, based on a massively reconstructed contract laws and new IBC federated recourse mechanisms, that provides modular, re-useable, index-searchable contracts that provide an easily accessible and inexpensive way of establish different forms of ownership and revenue sharing (automatically identified and paid by the **Universal Revenue Sharing** service (U-RS) according to the embedded contracts) for both virtual and non-virtual "outputs".
f. **Evaluation Vector Infrastructure** (EVI) is the regulated assessment system, connected in a variety of formal and informal ways to IBCs and Knowbanks, that is designed to provide a trustworthy platform for the constantly changing mix of sources and criteria for judging/assessing – the EVI infrastructure is explicitly grounded in the dual need to provide a: i) countervailing mechanism to the dangers of the "power-law" (monopolies) and ii) verifiable "third-party" peer-to-peer assessment platform (the core of the scientific method), even if such evaluation is largely applied to heterarchical processes/outcomes the need for countervailing mechanisms (anti-monopoly, etc.) is even more critical since knowledge is still power and evaluation is still the power to judge.
g. **The "residuals" or legacy systems** are all of the scale economy, administrative (command and control, conception and execution) and "national" institutions that still continue to function – are necessary but not dominant with respect to the functioning of everyday life (like agriculture in the industrial era) – the boundary lines were largely defined by the catastrophic collapse of industrial era institutions but also by the parameters set by the current LIS institutions.

Innocamp obstacles

The LIS scenario helps to identify at least three significant obstacles in the present to the consolidation of an Innocamps murmuration type learning society:

1. The way we use the future – to command, control, plan – which leads directly to the second major obstacle;
2. Administrative systems, that punish failure and are premised on a belief that the "right answer" exists;
3. Fear and defensiveness in those parts of the world experiencing a relative decline in status and hopes and ambitions in those parts of the world experience relative gains through convergence to the "industrialization norm".

Basically, as Machiavelli put it long ago: "It ought to be remembered that there is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things. Because the innovator has for enemies all those who have done well under the old conditions, and lukewarm defenders in those who may do well under the new. This coolness arises partly from fear of the opponents, who have the laws on their side, and partly from the incredulity of men, who do not readily believe in new things until they have had a long experience of them."

What to do now?

The imaginary LIS scenario does not take into account either the likelihood of such events coming to pass or the desirability of such a world. Probabilistic and value based considerations, certainly important for decision-making, are not the current topic. What the LIS scenario

attempts to do is sketch aspects of a world with a distinct and different operational capability – one that makes the ubiquity of Innocamps a logical part of the socio-economic system. Thus the analytical focus of this scenario is on learning as a constant, plural, transparent, capacity enhancing activity that sustains the rest of the system.

As already indicated the advent of such a system is not envisaged as the outcome of some easy, rational process guided by prescience, wisdom and effective coordinated planning. Again, without pretending to offer any view regarding probability, the precedents for taking a rational path are non-existent and existing hopes for such a leadership directed fantasy can be blamed, in part, on claims made ex-post by past-winners to justify their acts and status. And although the self-organizing patterns of the Innocamp murmuration are not complex from an algorithmic point-of-view, meaning such patterns can be reproduced on the basis of a set of specified parameters, both the conditions for such a system as well as the actual outcomes of the real system as it emerges, instantiating novelty, are indeed complex.

So what conclusions can we draw from this exercise for the rational, planning based policy approaches that are dominant today and shape the choices made by decision-makers? There are things that we can do – in other words what is our "stance" towards emergence? Policy is about agency, in the present.

One thing is to sponsor more Innocamps and engage in more analysis of why such exercises succeed and fail, why they may or may not have implications for the way society is organized, things about the future, etc. The Innocamp experiment shows all of the attributes of the hope, imagination and energy that humans bring to problem solving. The Innocamp even seems to have the potential to go beyond the parameters and limits of creative problem solving – looking for answers – by encouraging the exploration and discovery of new questions. Intensive learning environments enable people to share their knowledge and hopes, to invent and escape, to apply and test, to experiment more than once. From this perspective the Innocamps are privileged learning environments – hot houses for the interactivity, observation, analysis and finding new solutions.

An Innocamp is clearly a tool, a method, a process for fostering the learning that is innovation. Such learning can be applied to the challenge of industrial innovation – to solve the problems of production and consumption as we define these activities today. These are of course laudable goals because they promise to, amongst other things, reduce the environmental cost of what we do in daily life, to improve rate at which people participating in educational systems acquire skills, to make cities and homes and hospitals more "human". The question is – can the pursuit of industrial innovation foster learning that goes beyond industrial problems solving? And perhaps even more critical does this way of fostering learning eventually undermine or contradict learning that is not just aware of extra-systemic emergence but can let go of existing systems to nurture discontinuous novelty, potentially alternative and one day ascendent/dominant systems?

These questions would not be particularly pertinent if the existing system was not showing significant signs of dysfunction. One of the more striking aspects of current economic policy is the subservience, or narrowly focused functionalist rationality that defines and implements innovation as industrial competitive achievement. For the most part the difference between innovation as learning and innovation as a means to the end of production efficiency and market success is ignored. Except, insofar as learning is required for industrial forms of innovation. The INFU – Innovation Futures workshop held in Berlin on October 29, 2010 as well as the actual Innocamp experience that served as inspiration for the workshop are no

exception. Both the workshop and accounts of the Innocamp experience illustrate the extent to which the distinction between learning as innovation and innovation as competitive achievement remains largely unproblematized.

Per se there is nothing wrong with this tension, indeed it could be seen as one of the important insights from the process. Furthermore this tension is in large part just a symptom of the tensions that are evident in the kinds of strengths and weaknesses attributed to current socio-economic systems and policies. The point of this brief note was to look at the ways in which the Innocamps concept at the core of the INFU – Innovation Futures workshop held in Berlin on October 29, 2010, might be inscribed in an alternative, imaginary story of the future.

A7. Experts Interviewed

Prof Dr. Ansgar Zerfaß, Uni Leipzig, Germany
Michael Bartl, Hyve Ag, Germany
Alexander Greisle, work.innovation, Germany
Roger Cox, Let´Cradle Campaign, Venlo, The Netherlands
Jonathan Imme, Palomar5, Berlin, Germany
Simone Kimpeler, Fraunhofer ISI, Karlsruhe, Germany
William K. Ralston, Jr. Board Director, Vice President SRI Consulting Business Intelligence, US
Andrei Nestian, University Alexandru Ioan Cuza, Romania
Laura MacPherson l Ronny DaniellSophia HorwitzlMaurita Prato, Blekinge Institute of Technology, Denmark
Anna Trifilova, Head of the Management and Marketing Department Nizhny Novgorod Architecture and Civil Engineering State University
Rolandas Strazdas, Vilnius, Lithuania
Bettina van Stamm, Exeter, UK
Javier Ayneto Gubert, Director de Innovación, IDOM, Bacelona, Spain
Director de Innovación

IDOM
Patrick Corsi, KINNSYS Consultant, Brussels Belgium
Daniel Kaplan, FING/Fondation Internet Nouvelles Générations (Think tank on IT and social innovation)
Penti Eklund VTT Helsinki, Finland
Eva Kirner Fraunhofer ISI, Karlsruhe Germany
Jose Ramos, founder of Avanzalis knowledge associates, Consulting firm based in Barcelona
Karl-Erik Sveiby, Prof. at Hanken Business School, Helsinki
Raphaela Biddault-Wattington founder of Idea Engineering Laboratory LEED, Paris
Riel Miller, xperidox Futurist, Paris, France
Joachim Galler, Management Director of Modern Media & Technologies Galler GmbH,
Ezio Manzini, DIS Indaco Politecnico di Milano (DESIS network / Design for Social Innovation and Sustainability)
Charlotte Awidi, European Comission DG Enterprise and Industry, Innovation Policy Unit
Gilles Rougon, Design Manager EDF R&D ENERBAT
Michel Ida, Ideas Lab Minatec (innovation lab based on the micro/nano research centre of Minatec in Grenoble)
Roberto Verganti, Business Management, Politecnico di Milano, Italy
Anil Gupta, Indian Institute of management, Ahmedabad, India
Benny Leong, Honk-Kong Politecnic, Design department

The Future of Waste Innovation in 2030

Introduction

Outcomes from the future planning scenario “The Future of Waste Innovation in 2030” are diverse, and represent a number of core drivers. We have condensed these drivers into Future Trends and explored how they affect the Future of Waste Innovation.

These core trends are best described as:

The On Demand Economy - Waste is significantly reduced through producing only in accordance with demand.

The Surplus Ecosystem - A parallel social system that treats waste (Surplus) as material resource and exchanges it’s own Surplus (new/upcycled products) with society.

The Access Culture - An autonomous distributed network, working to provide everyone with access to knowledge, tools and resources they need to improve their lives and environment.

The world in 2030 is a diverse combination of legacy systems and products, and new systems, technologies and behaviors. In our descriptions and visioning we have focussed on the new Infrastructure Innovations, Archetypes, and Enabling Technologies relating to Waste Innovation, and Production (Waste Creation), considering how they engage with each other and Legacy Infrastructures, Archetypes and Products.

The following future scenario, is derived from several different innovation and discussion formats taking place in and around Open Design City, but primarily from the Micro Panel “Rubbish = Resource”. An overview of these events can be found on the last page.

Document Structure

For ease of reading and understanding, we have placed the Drivers at the start of this document. Each Trend is then described using the following structure:

Infrastructure
What are the Infrastructure Innovations relating to the Future Trend?

Archetypes
Personality Types engaged with the Future Trend?

Enabling Technologies
What are technologies that Enable these Future Behaviors?

Arguments
Why is this Future Trend attractive, how does it relate to the Future of Waste Innovation?

Drivers

Crowdsourcing/Crowdfunding/Crowd Creation

With small amounts of code, social networks, and free online tools, and a good story it is increasingly easy to build, fund, and demand new products, services, and innovations regardless of money, skill or resource.

Changing Value System

Money is becoming less trusted and valued. People are beginning to question why they should have faith in money, and exploring other ways to broker trust and create value.

Decentralisation of knowledge and process

Knowledge is increasingly distributed, with a little know how it is possible to find out how to do almost anything. Processes can be shared in simple formats, and positive storytelling can inspire new global patterns of behavior.

Hyperconnection

The hyperconnected world of the internet, enables new opportunities for increased connectivity. Online Social Technologies and rediscovered offline behaviors are creating both virtual and offline spaces where communities can identify shared needs and act accordingly.

Depleting resources

Depleting non renewable resources, will affect the cost of materials in the long term and create an economic market for alternative, previously unviable supplies.

Open (Source) Culture

The Open Culture encourages and enables participation at all levels in an autonomous manner. These “share alike” behaviors, applying open source principles to systems, products, materials and processes, create an environment where anyone can participate in the improvement and augmentation of products, services and innovations.

This driver allows for and encourages the spread of the Fab Lab network at multiple levels.

It builds ecosystems and relationships at the core of it’s culture and due to it’s disruptive nature explores the margins and boundaries of the existing economic framework.

The Open Culture demands transparency and behaviors (Openness, and Access), this attitude combined with Create It Yourself behaviors (if we can’t get it, we’ll build it), makes for a powerful cultural driver.

The Open Culture encompasses a broad range of emerging trends (eg. Global Commons, Peer2Peer, Open Source, Open Design, Hacker Spaces, Fab Labs, Free Culture), behaviors and Archetypes.

Those engaging with the Open Culture are predominantly living on the margins of the present society, addressing the challenges faced by our existing system by exploring strategies of collaboration and cooperation, and testing alternative modes of exchange and value.

Cradle to Cradle

Cradle to Cradle's philosophy is an important driver, although within the above described model, these approaches are distributed in an Open manner, and therefore applied in the sense of Cradle to Cradle as philosophy rather than Cradle to Cradle as Brand. The behavior of the Material Experts is a response to this closed system of commercial collaboration which is not conducive to assisting with the spread of socially beneficial innovations.

Upcycling

In this context Upcycling is not just about material nutrient flows and not "downcycling material", but also about looking at material combinations in products and their structures. Seeking the lowest energy method of reintroducing material into the system. eg. a bike frame is best Upcycled into a bike frame, a broken chair into a chair.

The On Demand Economy

Waste is significantly reduced through producing only in accordance with demand.

Infrastructure

The four infrastructure innovations described represent complimentary aspects of the eco-system.

Demand and Supply Markets

Demand and Supply Markets, allow for the aggregation of demand and the brokering of supply.

Demand and Supply Markets flip the existing system logic of Supply and Demand on it's head. Consumers aggregate around shared needs and desires, and Organisations and "Mayfly Businesses" bid to meet this need. As only what is needed is produced, waste through such markets is greatly reduced. "Pre-mediation" is frequently practiced, creating desire for products which don't yet exist, effectively manifesting future products and businesses through mediated storytelling.

Example of a Demand and Supply Market in Action

A need is created for a washing machine which is easily repairable with locally printed components, and designed with components which are designed to last from materials that can be easily reentered into the system as usable material.

Individuals cluster around this need, adding to the brief, and stating what price they would pay.

Organisations bid what it would take to produce stating both quantities, pricing and team capabilities.

When number of individuals and the price they are willing to pay meets the production and pricing expectation of the producer a contract is made and production begins.

Washing Machines are delivered and funds are released, different financial packages and releases are also available to cover R and D costs, and initial expenditure.

Mayfly Businesses

Mayfly Businesses, form to meet demands without the need to continue after products and services have been provided.

Mayfly Businesses are Organisations that form for limited lifespans, choosing Organisational Obsolescence over Product Obsolescence, Mayfly Businesses utilise the Demand and Supply Marketplace for identifying and brokering products and services, and for their own administrative infrastructures.

An Example of a Mayfly Business

Market desire for washing machine is identified in the Demand and Supply Marketplace (see above example).

A Mayfly Business is formed by a Collaboration Specialist (see Archetypes).

The collaboration specialist identifies members in their network who can meet to service this demand.

They collaborate with Materials Experts, Material Spaces and Fab Labs, outsourcing some challenges to the broader community (creating their own demand in the marketplace).

A clear collaboration framework is proposed by the specialist to allow for creative problem solving, whilst at the same time ensuring interoperability of component parts.

Machine is produced, distributed.

Mayfly Business splits profits, and dissolves.

Passive Consumption Systems

Passive Consumption Systems, provide consumers with their lifestyle needs without spending energy searching and buying (also allowing for efficient production and forecasting).

Passive Consumption Systems act as a lifestyle broker or enabler for Ultra Passive Consumers (see Archetypes). They provide regular consumables in accordance with moral, ethical and physical needs of the consumer, leaving the consumer free to focus on other aspects of their life.

Passive Consumption Systems have a very loyal following from Ultra Passive Consumers, and are able to forecast exactly what is required in advance, operating with incredible efficiencies and low waste.

Autonomous Collaboration Frameworks

Autonomous Collaboration Frameworks are used by Mayfly Businesses and Collaboration Specialists to manage on demand production.

These frameworks are sometimes merely working processes, where clear structures are established allowing all parties to function effectively, sometimes they are virtual software solutions and online tools. These are low management infrastructures, that allow for collaborating parties to work with maximum autonomy.

Archetypes

The Archetypes described in the On Demand model exist in a symbiotic relationship, and represent different behaviors in the Demand and Supply Cycle.

Collaboration Specialist

Collaboration Specialists are incredibly well networked both in the “Legacy Culture” and the “Emergent Culture”. They are able to create Autonomous Collaboration Frameworks, to meet the Demands created on the Demand and Supply Markets. They engage with the Scalable Fab Lab infrastructure mostly on larger scales as the opportunities and challenges are greater (Fab Labs being well equipped to handle simple jobs from local networks).

Ultra Passive Consumers represent ready made markets for Collaboration Specialists who compete to offer products of increasing social and decreasing monetary value.

Collaboration Specialists seek to provide long term benefits from short term input. Applying the “principles of personal obsolescence” (to make oneself unnecessary, whilst deriving income streams is the ultimate goal) to every project.

Ultra passive consumers

Ultra Passive Consumers (“Passives”) have grown tired of information overload and social pressure to “do the right thing”. Instead of opting out instead they "Opt in" to “Passive Consumption Systems”. Their lifestyle choices are made for them, provided on an as needed basis, and in accordance with their ethical as well as material needs.

Ultra Passive Consumers subscribe to lifestyle as service, selecting different levels of sustainable consumption and adhering to it without loss of emotional energy. Passive Lifestyles are purely functional, but often also imbued with rituals and behaviors.

For convenience extreme "Passives" live in closed hyperlocal communities that provide for their every human need. Their whole lives are managed and curated by other Archetypes.

At the extreme end of the Passive Spectrum we find the....

Sleepers

Sleepers, are Fundamentalist “Passives”, reducing their consumption by choosing only to live when socially and environmentally convenient. They spend the remainder of their time in hibernation. Such behavior is subsidised by the state or corporations to offset carbon emissions. Many members of society often temporarily opt in for hibernation to reduce cost of living as well as global impact.

Enabling Technologies

On Demand Technologies focus on Passive Purchasing, and Demand Creation. They seek to exploit the link between Demand and Supply.

Mobile Alternatives

By taking a picture of a product or scanning receipts consumers can request alternatives that fit with their ethical as well as physical needs. Products are then sought and provided on their behalf.

Serendipity Engine

A serendipity engine is a mobile application - it knows what you are looking for based upon your profile and expressed needs, when you pass someone who can provide those needs, it alerts you to their presence and what they can do for you.

The serendipity engine is used for social interactions, as well as to obtain products an services on a daily basis.

Arguments

Waste is significantly reduced through producing only in accordance with demand.

The On Demand Economy represents an important shift in our relationship with Waste, and Consumption. These two cycles are intrinsically linked. By ensuring that only what is needed is produced, Waste is greatly reduced. The On Demand Economy also allows consumers to demand Innovative solutions to product waste as a point of desire (creating markets for innovative waste products).

The Mayfly Businesses and the Demand and Supply Systems they use to identify market demand, are an important response to the overall need to reduce waste, as waste itself creates more work (a waste of time) for society (not to forget all the environmental arguments).

Systems with a limited life span, and planned labour obsolescence have the potent capacity to reduce our overall need to work, and our need for resources.

One danger with Mayfly Businesses is that of post production responsibility and insurance, however in a world of increased transparency (provided by the Access Culture, will ensure that responsibility is taken, or reputation will be destroyed).They allow for society to advance itself, and in a direction where surplus (ie. waste) is almost eradicated. The only Surplus society should have is time (an excess of which creates entirely new market opportunities).

The expression and aggregation of consumer desire allows us to create whatever reality we choose. This raises important questions about what our actual desires are.

For a better future to manifest itself, it must become easier to create positive social impact than it is to be globally destructive. Ultra Passive Consumers are an effective means of creating socially driven market places which create demand for sustainable solutions.

Collaboration Specialists and Ultra Passive Consumers represent two extremes of engagement within the On Demand Economy

The On Demand Economy creates the opportunity for social, environmental and economic innovation, without the creation of excess (Waste). It allows for people to meet their desires without sacrificing their lifestyle needs.

The Surplus Ecosystem

Infrastructure

Waste Mines

As non renewable resources are depleted and become more costly to obtain, old landfill sites and former dumping grounds become more economically tenable. The “Rubbish Rush” occurs in formerly dumped upon developing nations, as entrepreneurs race to cash in on new commercial opportunities, using distributed technologies developed by the Material Experts (see Archetypes).

Material Labs

In Material Labs, Material Experts (AKA Material Mavens) combine and separate organic and synthetic materials to create products which can be more easily disassembled through composting. Material Labs store and extract resources from both new waste (that created using Cradle to Cradle thinking) and old waste (continuously experimenting with new methods of extraction and disassembly). Material Labs often can be found close to Fab Labs in relevant scales, providing complimentary services.

Note: The Surplus Ecosystem also relies heavily on the Access Culture Infrastructure (see below)

Archetypes

Surplus Sufficients

The Surplus Sufficient views Waste as Surplus - just a resource that there is too much of that needs reallocation and re-evaluation. The Surplus Sufficients focus on different aspects of Surplus, they see opportunities in the excess, and have strategies of coexistence that allow them to enjoy a positive lifestyle. Core providers at the center of the Surplus Sufficient ecosystem are:

Hunter Gatherers - establishing deals with supermarkets, restaurants, bakeries, farmers and food markets. Surplus Sufficients guarantee that food waste will be used to support other Surplus Sufficients and those engaged in activities geared towards a sustainable society.

Space Invaders - Establishing relationships with property developers and landlords, Surplus Sufficients, establish themselves in local spaces that contribute to gentrification of space and the greater community, increasing value for the landlord and gaining access to the spaces they need to live and work.

Surplus Sufficients engage with every aspect of waste in society, using Fab Labs to fix, repair and Upcycle waste products into valuable tools, and Sharing Spaces for Cocooking,

resource and knowledge exchange. They are even able to meet their entertainment needs from Surplus seats at events.

Surplus Sufficients collaborate with Material Experts, providing the Experts with resources supplies and infrastructure, in return for usable materials and knowledge.

It is possible for Surplus Sufficients to sustain themselves within their local networks. However they are also highly valued by Industries and Businesses looking to improve their own resource management, as their knowledge base, networks and behaviors make them well equipped to identify new opportunities (early projects included linking Crematoriums and Gymnasiums to their private energy grid).

They share incomes generated with their community, making this Surplus available to whomever needs it when venturing outside of the community or networked spaces (visits to friends and relatives, holidays).

The Accessionists

A specific type of Surplus Sufficient, Accessionists don't own anything, they share it. They loan or borrow whatever they need as and when they need it.

System Upcyclers

System Upcyclers are Surplus Sufficients operating on the Macro Level, identifying "Surplus Organisations" (those which add no social value, or organisations that possess components and infrastructures which could be put to more effective use).

System Upcyclers, crowd source funds to facilitate "loving take over bids" buying up shares in public firms for a pre-expressed purpose. System Upcyclers are clever system manipulators, consciously driving down share prices prior to and during a buy out (as traditional shareholders are terrified by their non profit rhetoric).

Some companies employ System Upcyclers, recognising the values that their behaviour's bring. However they are greatly feared.

System Upcyclers make good use of the Demand and Supply Markets to broker community needs against corporate resource.

Enabling Technologies

Surplus Ecosystem Technologies focus on Disassembly, Upcycling and Product Extension

Waste Tracking

RFID chips in all products as well as providing the Access Culture with the ability to augment products, provide the Surplus Ecosystem with the opportunity to locate material and resource clusters.

Permatape

Permatape is a fabric tape which hardens when in contact with the air. When wrapped around any two objects it binds them tight together and can create a multitude of structures with ease. Permatape can be treated with an organic solvent that temporarily returns it to it's fabric state.

Perforated Circuit Boards

For ease of dangerous materials separation.

Modular Products

Highly specialised yet interfacing products which can be combined "lego style" to meet specific functional needs.

Compostable Electronics

A combination of organic and synthetic product, the products are designed to be disassembled by composting, or digestion by micro-organisms, outputs are energy, usable fertiliser, extractable synthetic materials and reusable components.

Module/Component exchanges

Both localised and virtual spaces. Local exchanges can be found at the material labs, virtual spaces allow for "home composting" and object swapping.

Arguments

A parallel social system that treats waste (Surplus) as material resource and exchanges it's own Surplus (new/upcycled products) with society

The Surplus Sufficients are key Archetypes for a complementary ecosystem, a countercultural framework to a society who's main output is Waste.

Encouraging such systems to grow and thrive is essential to create an Innovative Waste Environment, where wealth and growth can be created from waste, whilst at the same time putting valuable material flows back into society.

Complementary ecosystems such as this are necessary to evolve and grow infra structural solutions to Waste Innovation. Centralised and managed systems cannot meet the challenges (there is not even the knowledge required, it must be discovered).

This key behavior represents a way to which Cradle to Cradle ecosystems can be built from both directions.

Such a system would ultimately harmonise and combine with the present system. However to begin with there must exist the legal, knowledge and physical frameworks to encourage such behavior on a large scale.

The Access Culture

Infrastructure

Infrastructure Innovations are scalable in their nature operating in a “fractal” manner (ie. the behaviors and systems essentially look the same regardless of scale). This makes it easier for behaviors and roles to be applied at different levels of the system, whether they are operating at macro or hyperlocal (aka micro) scales. The infrastructure innovations represent enable a parallel ecosystem to evolve alongside the “Old Economy”.

Scalable Fab Lab Network

Fab Labs operate at both hyperlocal, community, and global scales. “Fab Factories” are fluid and transient spaces producing and modifying their own tools for mass production as needed in accordance with the Demands created and communicated by the Demand and Supply Markets. Scale of production is dependent on scales of demand, efficiencies and personal choice. Local Labs, Factories, and Home Labs all provide different levels of commercial and social engagement.

Sharing Spaces

Sharing Spaces provide communities and future Archetypes with physical spaces for sharing, knowledge, skills and resources. Both Material Labs and Fab Labs are sharing spaces, however more general spaces are also a critical part of the social infrastructure, providing the community with opportunities to experiment and service it’s own needs.

Alongside this environment new trends, behaviors, personality types and technologies have evolved. Below are descriptions of specific Archetypes and the technologies they engage with.

Archetypes

Material Experts

Material Experts possess a wide range of skill sets and collective behaviors, from Social Hacking (“Asif-ism” - behaving “as if” they are an expert in a particular field in order to gain access to knowledge), to reverse engineering of materials, gardening, biology and chemistry.

They are devoted to the understanding, creation and reclamation of material. They are regarded by some as antisocial and obsessive. However they are much respected as they share everything they know with the world.

They are often also Ultra Passive Consumers, as they would rather devote their time to research and development.

Material Experts are much sought after for their expertise in Disassembly, as well as for their material supplies and knowledge.

Enabling Technologies

Access Culture Tools are primarily focused on Legibility, with production needs and capabilities being provided by the Material Labs and Fab Labs (previously described).

QR Code Circuits

QR Code Circuits are circuit boards which are printed in the form of a QR code (a scannable barcode), which can be read by mobile devices allowing for ease of understanding what a circuit contains and what it does.

Augmented Products

Products are Augmented by RF chips and other technologies allowing for contained materials to be identified, processes and production flows to be comprehended, as well as instant access to a wiki showing every potential use of a product in it's afterlife.

The materials and product wiki is created in some cases by companies, but more often than not by activists.

Wiki's are also used to add value to products by documenting their history and experience.

Arguments

An autonomous distributed network, working to provide everyone with access to knowledge, tools and resources they need to improve their lives and environment.

The Material Experts belief - that everything should be accessible and Open to all - allows for a cultural transition into a society where everyone can help to innovate and improve.

Points of control and absence of information are bottlenecks preventing innovation and advancement where it is most needed.

The spaces at the core of the Access Culture - Fab Labs, Sharing Spaces, and Material Labs create definable focal points for the Access Culture to engage with the world.

Our conventional system of control, and hierarchy has simply grown to big to manage, and yet is perceived as too big to fail.

The Access Culture, provides the world with an alternative means to engagement. It encourages participation and co creation. Which leads to a greater connection and understanding in all aspects of life.

It removes all barriers to innovation with the exception of perceived financial reward. However these issues are covered by the On Demand Economy (as deals are made in advance and at a preset value).

The Access Culture creates the opportunity for everybody to improve the world.

Barriers

Legacy Control Systems and Mindsets

The change brought about by the systems described above will be disruptive to many existing systems and infrastructures. Entire industries will need to adapt, die, or fragment.

The natural response will be to attempt to prevent the new systems from emerging using the law and pressure groups - see below. Many will struggle to relinquish control over their knowledge, their information, their markets and their image.

Legislative bodies and legal hurdles

Legislation, both existing and new, brought about by protectionist mindsets, functioning only to support aging industries, presents a hurdle to the future created above. At least where Archetypes obey the law.

However in order to prevent the outlawing of socially beneficial environments and Archetypes, the creation of “Temporary Autonomous Zones”, would allow for alternative systems to flourish. This would provide for the necessary experimentation with behavior and technology required to address the problems of the existing system.

Complexity

The complexity of the existing systems of production and material flows are a great barrier to widescale adoption/manifestation of this vision. Initially the vision would be applied to simpler systems, growing in complexity as more resources and visibility increase.

Accessibility

The success of this vision, depends upon access to knowledge and information. An increased visibility of process and supply chain. Whilst the Material Experts may be specialised in Opening up organisations, Access is also about the knowledge required to interpret the information provided. Whilst some of the Enabling Technologies facilitate this, unless the technology is available to all it will still present a barrier to understanding.

Legibility

Complicated information must somehow be distilled into a legible format that can be read and understood by the general public. Numerous forms of Literacy are required in order to read objects. The most basic of these is Physical Literacy (understanding how to manipulate, read and re-write physical objects).

Conclusion

This future scenario addresses the challenges and opportunities of Waste through a re-framing of how Waste is perceived and how it is created.

Visibility and understanding of process are best achieved on a local scale, as the community is better connected to what it consumes and the waste it produces (Plus there are also the efficiencies regarding transportation and logistics).

Consumers, Amateurs, Entrepreneurs and Enthusiasts will drive Waste Innovation and global transformation as they first familiarise themselves with existing tools and opportunities, and then build their own.

Access to knowledge, tools and resources is a Human Right, by distributing these powers we give everyone the opportunity to innovate.

Considering what our Culture desires before we create will reduce our waste, whilst at the same time increasing our access to what we truly desire.

Finally Complimentary Ecosystems, not managed transition hold the key to accelerated innovation, and balancing our waste output against our consumption needs.

Process

“Rubbish = Resource”, an open discussion around Waste Innovation, and future scenarios. This Mini Panel brought together a diverse range of people with different mindsets and skill sets to explore the key themes and drivers around waste innovation. The outputs from this workshop comprise the core of this document.

The following persons participated in this workshop: Pedro Pineda, Ruta Vimba, Susanne Stauch, Christophe Valliant, Dominik Wind, Greg Poulton, Viktoria Trosien, Jurgen Breiter, Jordana Maisie, Mendel Heit, Judith Meijer, Andrea Lospenato

The Workshop was facilitated by Jay Cousins and Christopher Doering

“House of the Future”, an Enable Berlin Event within Open Design City, using design thinking processes to create innovative future products in direct response to a brief to design a Sustainable house of the future, incorporating multiple needs in 40 sqm of space. This sparked ideas and dialogue around Waste Innovation within the home (small C2C ecosystems), and the future of space.

“Upcycle it - Upcycling Furniture edition”. Upcycling in this context and the context of this document is more from a grassroots perspective. An account of this definition is given in the drivers section. This event was the chance to observe directly action processes and behaviors which are also influential in this future vision. Again it also sparked further dialogue and reflection in the community.

The community interacting and engaging with the Open Design City is one which in it’s nature is highly future orientated. Due to this, other discussions and actions also have influence in this vision including, the Future of Money, Innovation Processes, the Free Culture, Open Design Practices, Cradle to Cradle vs UpCycling, and the New Sharing Economy.

The above vision therefore has roots in a range of discussions, some focussed and some from overlapping themes. We have then distilled this into some key trends, drivers and ideas portrayed through a vision of the world in 2030.

Documentation of the visioning workshop „innovation camps 2030“ in partnership between INFU Foresight exercise and until we see new land

A) Introduction

In this Mini-Panel, we focused on INFU Vision 7 “Innovation Camps”. With an interdisciplinary team of 16 participants we had one day at Direktorenhaus Berlin to imagine a world where innovation camps as we understand them today are projected into the world of 2030. The team was divided into three smaller groups to foster intensive brainstorming and discussions. Regarding the process every group developed its “world of 2030” first and then used this world as a framework to envision innovation camps in 2030 in a second step.

B) Worlds & Visions

1) “Zone/Tribe” -Model

1.1) World 2030

Society is not primarily clustered anymore in different nationalities. Those borders still officially exist, but most of the people have a stronger connection to their current tribe(s). **Tribes** cluster people around certain lifestyles, attitudes, beliefs and rituals - it’s a nationality for like-minds. People can associate themselves with one or with several tribes at the same time. The association is rather temporary though as throughout the life, people tend to identify themselves with various tribes. In general, the society of 2030 is determined by a high level of fluidity. A tribe can be spread across the whole planet, so people in different locations and continents share the same lifestyle and can live in a location-independent ecosystem.
However, people belonging to the same tribe still strive for physically living with or close to each other. They often team up with people from like-minded tribes with similar approaches and necessities to design and inhabit their own **zone.** Even between neighbouring zones, the differences in terms of architecture, use of technology, mobility and infrastructure, agriculture and the general style of living & working can be huge - comparing to the differences that one could formerly identify between neighbouring districts in a city many years ago. For example, a high tech zone could be located right next to a low tech zone where people avoid to use any electrically powered technology. Partly because of that, the megacities are not anymore recognizable as such since the cities have been divided into very different zones. Besides, the vegetation has found its way back into the urban environments, former skyscrapers and company plants have been remodeled and used for new purposes, serving e.g. as a central market place within a zone. Curious people frequently travel to different zones and experience the lifestyle of new tribes - something formerly known as an adventure vacation.

Traveling through the various zones & tribes, one can notice some global trends. For example, a lot of large institutions have more or less vanished:

- **Banks:** Instead of relying upon money focused central banks and being dependent from irrational investment logics, people have developed their own architecture of currencies and now hold accounts for skills, competencies and societal contributions. While those currencies might get valued differently, the system still works in most of the zones.
- **Hospitals**: Due to the implementation of digital tracking technologies into our bodies, the infection with viruses and damage to our body parts can be instantly recognized and evaluated. Since diseases don't spread in a wild and unpredictable manner anymore, medical institutions can focus on complicated operations.
- **Universities**: Schools and universities couldn't keep up with the pace of transformation to a world of connected information, so the tribes and families took over the responsibility of teaching kids how to access and process the global knowledge. Local projects within the zones offer life-long opportunities for hands-on learning, meta-concepts and our history can be explored through avatars in virtual worlds and playgrounds.
- **Courts:** As the idea of copyright is no longer in existence, as zones can set up their own rule set and as global law experts gather on demand through technology to ensure and prosecute the most important global rules, courts only play a niche role anymore
- **Churches:** The standardized one size-fits-all mass religions have largely lost their trust and popularity, thus religious institutions are now used for other public services within the zones. Spirituality overall has actually been rediscovered - but it has gone ambient, individualized and decentralized.
- **Production plants:** Only Products built for extremely high durability are manufactured within special plants. Products that are intended for a short life-span are built of completely recyclable material and are suitable for enhanced 3D-printing at home or in specific manufacture-to-go studios.

The overall mentality has shifted towards a point where we have understood that work is organized for life (not vice versa). And taken that together with the fact that people have become more tolerant due to a more nomadic and open-minded lifestyle, this explains why the average person on earth seem to be happier compared to 2010. A smart and semantic web is helping us to finally come very close to a common understanding of internet protocols, human rights and intertribal support.. But not all the challenges that existed in 2010 have been solved in 2030. We still face discrimination and violence between different zones, tribes, cultures and nationalities.

1.2) Innovation camps 2030

Most interestingly: The majority of innovation camp-like happenings that take place are not marketed and labeled as such - they have started organically in a bottom-up approach. Generally speaking innovation camps that were kicked-off & sponsored by corporates out of PR & CSR objectives have failed numerous times in the past - so the vast majority of innovation camps nowadays tackle real problems and solve real needs. However, there is a range of different 'tastes' of innovation camps, catering to various needs and attitudes of the participants. Some will set the focus on the exchange between different tribes & zones and on providing intercultural informal learning environments while others are strongly curated, facilitated and output-focused. In the latter case, the organizational party has to make

sure that enough extrinsic incentives exist for the participants to take part.
As corporations have heavily lost influence, they are not the main supporters of innovation camps. However, there are still corporate-sponsored innovation camps taking place that function well if the corporates communicate their goals & (formerly hidden) agendas in a completely transparent way.

1.3) Description of the different levels of the innovation landscape

1.3.1) Micro level
By attending innovation camps, the participants will have the opportunity to critically reflect upon themselves by getting to know people from other tribes beyond superficiality. Innovation camps also serve as way to discover other zones that people usually wouldn't go to or spend much time in. So innovation camps not only foster solutions for specific fields & problems - they also function as a motor for human-self-innovation. The ability to innovate is closely linked to the knowledge of unleashing one's own creativity. Innovation camps provide interdisciplinary hands-on learning environments and thus serve as one of the main sources and drivers for the education.

1.3.2) Meso level
Innovation camps foster community building by getting people together in real-life. In some way, innovation camps have taken over the role that pubs and coffee houses used to posses.
Besides, as already mentioned, innovation camps allow the various zones to cover topics of interest and work on zone-internal challenges in a participatory & transparent way.

1.3.3) Macro level
Innovation camps are an intense & productive way to tackle problems that the world's inhabitants have to face on a global level, across the different tribes & zones - for example how to deal with discrimination, environmental challenges, communication infrastructure.

2) “Dialogue” – Model

2.1) World 2030

Supported by cheap and very fast ways of transportation, people will be able to travel to nearly every place in the world. Thus borders will blur and we will have a totally globalised world, mixing nationalities, religions, cultural backgrounds and languages.
People will leave the countryside to gather in mega cities which will not feel and look like the cities of 2010. There will be a lot of nature, green architecture, sustainable mobility concepts integrated into the environment and new ways of flexible living. Moreover a lot of sharing concepts will be developed to save resources, especially in the field of transportation, use of energy and production (e.g. shared 3D-printing).
Models of connected life and work will be established and there will be still political parties who are highly influenced by big companies and rich people. But the real political action will be triggered by normal citizens who organise themselves and gather temporarily around problems to solve them.
Apart from the mega cities, places for total tourism will be designed and created to purely amuse people and help them to recover.
People will move fast between different mega cities and places of tourism to enjoy their lives, get to know different people, be at the heart of different problems or topics and experience different climate zones. At the same time one can observe many extremes in society and economy.
Big companies and production centers with strict hierarchy juxtapose communities using open innovation to produce and realize their own products and ideas. Very rich people living in high security areas juxtapose “normal” areas for the average human being.
Some people will love the technological progress. They will be online 24/7, wear implants and will be able to plug in with their data and programs nearly everywhere. At the same time there will be counter movements who believe in ecological ways of production and being human instead of “robots”.
Some of the people will be able to handle the information overflow and the infinity of possibilities while 50% of the population will be mentally ill and depressed.

2.2) Innovation camp 2030

In this world of extremes, two different kinds of innovation camps will emerge. Those who are initiated by big companies to get media attraction and those who are organised by communities in a boot-strap approach, something like small underground camps.
But in every case, the camps try to bring together an interdisciplinary team of people with different point of views and backgrounds while the mindset and the culture of the people tend to be similar. The camps will enable a dialogue between different groups and solve existing problems, e.g. political issues.
It will be necessary to pay the basic costs for housing and living and to enable an atmosphere of freedom and trust. Moreover meeting offline will still be essential for a communication involving all senses which is necessary to work and create in a collaborative and intense manner.
The attendees will be self reflected persons with great social skills. It will be easy to attract the so-called “free spirits” who live self employed and like such kind of events, culture and atmosphere. However, in

order to spark a real dialogue, the camp organisers will have to attract so-called “tied spirits” too. The approach: every free spirit will convince a tied spirit of his/her close peer group to attend the camp. Consequently, the tied spirit has at least one person to relate to, so the atmosphere of trust and freedom will not be challenged too much. In addition to that, a lot of children will attend because we appreciate their naive thinking and playful behavior.
The architecture will vary between very rough “underground”-style locations and elaborate, costly designed working and living environments depending on the financial situation of the organisers.
There will be a lot of camps taking place at the same time all around the world. Maybe games and challenges within or between different camps will help fostering new ideas in a playful way.
To moderate and mediate between different camps and groups, one will need something like an referee team that understands both “sides” - free and tied spirits, but without the right to make decisions.

2.3) Description of the different levels of the innovation landscape

2.3.1) Micro level
People will get to know and understand lots of different point of views and backgrounds. They will receive more and more informal education through camps that frequently take place. Some even might be able to live a nomad life, jumping from camp to camp, getting the basic costs paid while solving real problems.
However, the big corporate camps might have trouble attracting the free spirits to participate. Some of them will end up organising their own camps after having faced frustrating situations out corporate camps.

2.3.2) Meso level
Schools, universities and corporates will on the one hand be afraid of such events because they create new solutions which might challenge existing products and systems. But on the other, the great potential in such temporary working communes is obvious to the education sector. Consequently, those camps will serve as learning environments for students and employees. Especially the discussion between free and tied spirits will cost a lot of energy on both sides, but to be able to really change the world and to create innovations with “thick value”, companies and underground communities realise that they have to work together. Especially the “every free spirit attracts a tied one”-model and the referees should help fostering and enabling this required dialogue.

2.3.3) Macro level
In society these camps will be seen as breeding places for meaningful solutions. People who attend will be respected for their will to change and help without getting paid. The government will support such camps. There will be political funds available to (partly) finance innovation camps. Some of them are organised and funded in a completely crowd-sourced manner if they tackle a problem that affects a big part of society.

3) "Filling the Gap" - Model

3.1) World 2030

In 2030, in general the world will be characterized by a big shortage of most resources we still take for granted today. Especially drinking water, oil and gas but also some ores like coltan that is so important for the production of capacitors in mobiles and laptops will face scarcity. Especially "western countries" will have reached a level of prosperity that will allow less and less economical growth. "Business as we know it" will come to an end. It will be the starting point of a transition phase of economical instability that will have big impact on societal and political level. Due to an increasingly volatile and less predictable world, the understanding of the "normal people" is overtaxed. This leads to an intensification of social tensions.

But there is also hope for 2030: in the previously described circumstances there will also be more and more people trying to change the world around them in a positive way with their actions. Through technological progress, especially the ongoing growth of connective technology (like the worldwide web today), the skills and resources of all people are visible to everybody in real-time. Hence, people will be able to take action and solve problems in loosely formed "global action groups". These action groups will take over more responsibilities out of the sphere of responsibility of governments. And whatever they do needs to be self-sustainable - both, in terms of resources and money.

Generally speaking by 2030 we will live in a world characterized by more extremes in the middle of a transition phase that follows the global end of the industrial era.

3.2) Innovation camp 2030

By 2030 innovation camps will serve as catalysts for mindsets and ways of thinking. They will offer "safety bubbles" where the attendees can think and do differently compared to their normal working life. Forward thinking people gather in the experiment and experience spaces, connect there with "normal" local people and help to define and solve problems in a non-elite and hands-on manner. The camps need to be self-sustainable systems so they can stay autonomous.

- The main goals of innovation camps:
    - (social) education
        - non-hierarchical decision making
        - fostering citizens' creativity and engagement
        - social skills
    - politics
        - direct democracy: decision making on a local level
        - testing of supposed solutions in a protected surrounding
    - solution finding for economical, political and social problems
        - addressing real needs
        - defining the question/ problem
        - finding approaches to solve them
        - new approach for market research and foresight

- functions:
  "filling the gap": in a world where existing skills & resources are transparent and visible to everybody, these resources can be connected on demand to realize camps around pressing problems. For example innovation camps will use existing temporarily empty spaces - instead of creating a space from scratch. It's house squatting gone good.
  "temporary oasis": innovation camps are retreats / homebases for the global digital nomads

3.3) Description of the different levels of the innovation landscape

3.3.1) Micro level

- people will be driven by pressing problems that will affect them directly
- individuals will take more and more responsibility to proactively frame and solve problems on their own
- a "nomad culture" will emerge because top talents will spend their time traveling around the globe, solving or at least easing the most pressing issues. For these people "innovation camps" resemble their temporary homebase

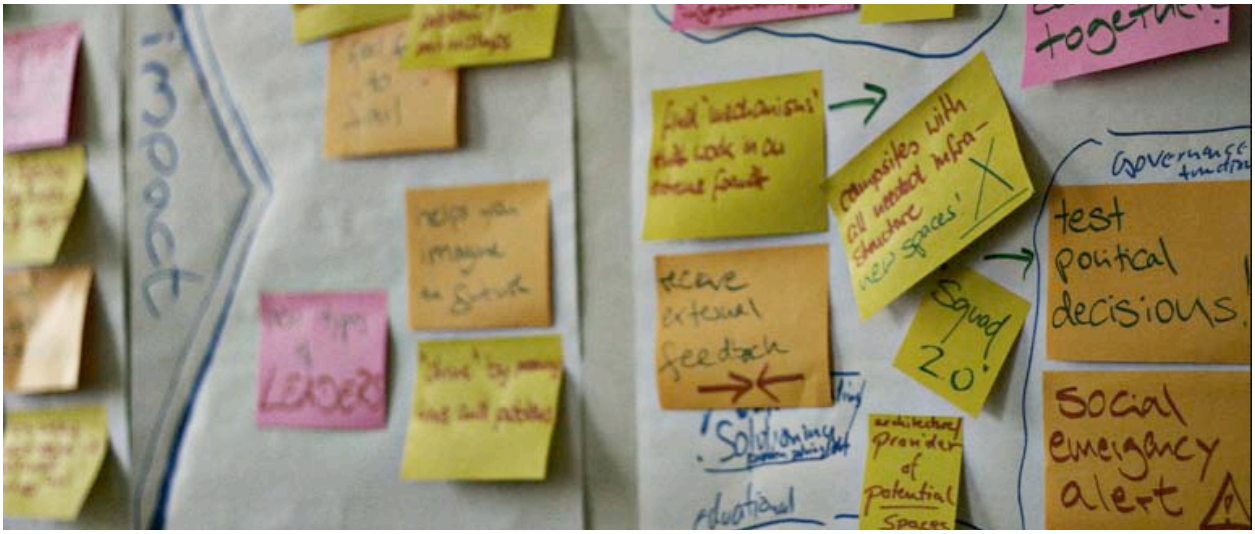
3.3.2) Meso level

- corporations and other big institutions are complex systems that need to develop new products with real value, not just for consumption. Senseless consumption in our "throw-away" mentality of today will not be possible anymore.
- Some big institutions that understand the signs of time become important drivers of change because they pool huge financial power.
- The remaining institutions will be replaced by fast and dynamic, global networks that build around the pressing challenges. Because the possibilities of communication and collaboration technology enable ad-hoc connection and co-creation without transaction costs, there is less need for the model of today's corporation. It will simply be outdated.

3.3.3) Macro level

- governments provide an infrastructural network of rough "campsite-like "places, where citizens can start innovation camps and don´t have to deal with too many infrastructural problems
  The infrastructure provided by these "campsites" include:
  - water, sustainable electricity, access to the world wide web
  - self grown organic food
  - space
  - information, pooling experts and local people with instant availability
  - funding

C) A joint vision for innovation camps in 2030



Although the three previously outlined visions do have their individual taste, we can identify commonalities amongst them:

Setting:
In 2030, technology will not be able to digitally transmit all human senses. Consequently, camps will still take place offline, in real locations but with a high level of interaction between the in- and outside of camps through technology. The architecture will vary from very rough underground locations to costly produced working and living environments. But in either case, they will challenge people in new experimental and experience spaces. The innovation camps in general and specifically the architecture and location will have to be self-sustainable systems to match the scarcity of resources. So there are basically two options for innovation camp spaces in order to be sustainable:

- permanent spaces that form autonomous systems by producing their own food and energy. Products that can't be produced within the space environment will be upcycled in dedicated "fablabs" and "maker spaces" to re-use resources.
- temporary spaces build as stopgaps: when existing skills & resources are transparent and visible to everybody, these resources can be connected on demand to form camp environments. So innovation camps will be established in spaces that happen to be empty / not in useage for a certain amount of time (from days to months)

The camps serve as "safety bubbles" where the attendees can think and do differently compared to their regular working life (in case they have one).

Organizers:
As corporations have heavily lost influence, they are not the main supporters of innovation camps. However, there are still corporate-sponsored innovation camps that work well if the sponsor communicates their goals & (hidden) agenda in a transparent way and in the end is open to share the results.
However, most of the camps will be organised organically by the individuals or communities who gather temporarily around problems. Thus we will see lots of camps in different variations around the world at the same time. They get public funds and/or crowd-source their funding. In addition to that in many cases there might be people or institutions that will benefit above-average from solving a problem.

So they´ll be willing to pay for a camp setting that might lead to a feasible solution.

Purpose/ Outcome:

- (social)education
    - non-hierarchical decision making
    - fostering citizens` creativity and engagement
    - social skills
- politics
    - direct democracy: decision making on the local level
    - facing global problems and negotiating solutions in an international, intercultural and intergenerational intensive environment
    - testing of supposed solutions at small scale, camp serving as a living lab environment
- solution finding for economic, political and social problems
    - addressing real needs
    - defining the question/ problem
    - finding approaches to solve them
- new approach to market research and foresight

Attendees:

Camps will attract the “elite” group of people that actively shapes the zeitgeist. There will be artists, business men, designers, coders, weather policemen, format architects and other experts out of disciplines we don`t know yet.
These attendees will be self reflected and forward thinking, proactive persons with great social skills. But depending on the tackled problem there will also be “ordinary” people who are not experts in a specific field but are affected by the problems the camp should solve directly. Thus they have interesting and valuable insights and a true intrinsic motivation to help.
Moreover a lot of children will attend because their naive thinking and playful behavior is beneficial. Besides, the knowledge and experiences of the senior citizens will be incorporated in the creation of ideas and solutions in a smarter and more efficient way.

D) Summary of the main arguments behind the vision

1. Pros

- As for some global challenges, the time is running out for human beings, people will eventually understand the necessity to change their way of thinking and behaving in order to hand over a world worth living in to their (grand)children.
- The world wide web and the next generations of “connecting technology” enable people all around the globe to foster an exchange and raise awareness for the challenges they are facing.
- Even today there are trends and new forms of collaboration and fabrication that support the vision of self-organised camps (barcamps, open spaces, co-working spaces, fablabs, hacker spaces, residency programs...)
- In the western industrial countries the rising of the living standards has forced the production sector to move abroad, towards regions with lower labor costs. While production used to resemble the main economic driver, innovation, science and research will be the main suppliers of tomorrow’s economical prosperity. This development will start in the western world, extend to the the brick countries and finally also reach the developing countries. Thus, governments and institutions will be bound to invest in sophisticated technology, methodology and new formats that trigger innovation.

2. Cons

- Most western educational systems of our time still educate, one could even argue “produce” people for the industrial age. Generally speaking the educational systems don’t foster creative problem solving, tolerance and individual development, but equalization instead.
- People are neither trained nor used to take action - for the the benefit of themselves and of others. A strongly developed “consumption attitude” prevents them form doing so.
- Gatekeeper, especially in business and politics, are endangered in their existance from such an enormous power shift and will do everything we can imagine - and even some things that we can not imagine today in order to prevent their loss of power.

E) Media

Here you can find pictures and a short movie of the event done by Laurent Hoffmann.
http://www.flickr.com/photos/untilweseenewland/
http://vimeo.com/16088163

| kontakt

Let‘s go sailing together **until we see new land:**

until we see new land UG (haftungsbeschränkt)
Erich-Weinert-Str. 51
10439 Berlin

Web: www.untilweseenewland.com
Twitter: newland
Facebook: until we see new land

Ihre Ansprechpartner für Expeditionspartnerschaften:

Dominik Wind | dw@untilweseenewland.com | +49 151 27558492 | Twitter: dominikwind | Skype: dominik.wind

Simon Wind | sw@untilweseenewland.com | +49 160 8037731 | Twitter: simon.wind | Skype: simon.wind

Jonathan Imme | ji@untilweseenewland.com | +49 171 7780547 | Twitter: derjonathan | Skype: jonathanimme

„One does not discover new continents without consenting to lose sight of the shore for a very long time.“

Andre Gide, writer and nobel prize winner

The world of Innovation in 2030

The shape of organisations to come

Dr Bettina von Stamm; Innovation Leadership Forum Ltd.

November 2010

Perspective

One of the questions that seems to have started forming over the last one or two years is the following: what will the shape and role of organisations be, in 20-30 years time?

In this document I would like to share some 'happenings' and observations that have fed into and shaped this question, how I can imagine these weak signals amplifying and becoming stronger in the future, and what I envisage some consequences for the shape of organisations as we know them to be today.

Happenings & Observations

Happening 1: The Exodus of the Creative & Innovators

Observation 1 – a trend towards self-employment

Upon completing my MBA in 1992 I started to work for myself. A rather unusual situation at the time – most graduates sought employment in predominantly large organisations in general and top consultancies in particular. If people started their own venture it tended to be with a small group of friends and colleagues, and with the ambition to grow and build a larger organisation. Today it seems that many more people out there operate on their own, as I have done for nearly 20 years, with neither desire nor ambition to build empires. In fact, according to a 2010 report by the European Commission, 45 % of all Europeans would like to be self-employed, the figure is even 55% in the US.[1] They may link up with others to respond to particular project needs, but fundamentally remain independent.

Observation 2 – innovation responsibility as ejector seat

Since 1999 I have been involved in running innovation-focused networking initiatives whose members were primarily drawn from large organisations. Over that time period 'innovation' has moved to being discussed by some to infiltrating every annual report and CEO statement. Over this time period the profile of those asked to 'make our organisation more innovative' has changed too: from keen, bright and young highflyer with no experience, reputation or clout in the organisation (often female) to the highly respected and experienced and versed company old-timer (generally male). What has intrigued me is that a rather large percentage of these innovation leaders leave the organisations. A few points are interesting here,

- The departure can be either voluntary or forced, but is generally a result of a misalignment with what the innovation leader deems necessary to improve conditions for innovation and what the organisation (i.e. its leaders) are willing to accept, i.e. innovation leaders cannot introduce the changes they consider necessary. It seems to be the case that people who delve deeper into what makes for an innovative organisation invariably come to the conclusion that a systemic / holistic approach is required, and that it is fundamentally about values and behaviours; truly embracing and engaging this message is not within the comfort zone of many decision makers. As the Innovation Champions are infected incurably with the innovation bug and will settle for no less they see no option but to leave.

[1] European Employment Observatory Review: **Self-employment in Europe; published by the European Commission, see also http://bookshop.europa.eu**.

- Most of these people set up their own consultancies, aiming to package their insights and learning and sell them back to organisations like the ones that have ejected them. Many of them fall into the group mentioned in my fist observation: they become de facto sole traders.

Upon investigating this issue of innovation leaders leaving their organisation rather than moving on to another role within, I came across the study by the US-based Association for Managers of Innovation (AMI, which is part of the Centre for Creative Leadership) which had started in 1981; again it was a group of innovation-focused people, drawn from large organisations. Noting a significant turnover in members they conducted a study in 2000 to investigate why about 1/3 or 15 of their members were no longer part of the group. This is what they found: "*Of the 15 innovation champions, 10 have left their organizations and become consultants, 4 have joined smaller or start-up companies, and 1 has retired. As indicated previously, none has returned to a Fortune 500 company. Most who have become consultants have as their clients Fortune 500 companies and, in some cases, their former employers*." [2]

Of course, not all organisations are like that; there are those who attract creative talent and make conscious efforts to retain them. Not surprising such organisations include IDEO, Apple, Google – those organisations that are known for their obsessions with innovation (and design).

Observation 3 – … and it is not only the innovation leaders

While the above refers explicitly to innovation leaders the exodus seems to go further. A colleague related to me the results of a study conducted within a large consumer goods company who wanted to find out who the people behind their big innovations were. The findings were rather interesting, all of those innovations that had made a large contribution to the company's fortunes could be traced back to a particular person – not all to the same person but all to an identifiable person. That was the exciting bit. Not so exciting was that all of those people had since left the organisation – and not because they had retired but rather because the constant drive for cost savings and efficiencies had driven them – and people like them – out.[3] Admittedly, this story is some years old but given the current economic climate, cost cuts and other innovation undermining activities are only likely to have worsened the situation.

Happening 2: Where the creative energy goes

Observation 1 – people like to contribute…

Research by Dixon (2005) found that a large percentage of people willingly give their time – even for free – if the cause is something they believe in.[4] I think this might have gotten lost towards the latter part of the last century, perhaps it was not so strong then, but it certainly getting stronger now.

To illustrate this I would like to share the story of a communications consultancy which as planning its Christmas Party; in the previously year it had been a grand affair where everyone had flown to Monaco for a big, glitzy party. When starting the planning the organising committee wondered how they might be able to top that – and went around asking what people felt and thought. To their amazement it was nothing like the previous year! What people the employees actually wanted to do is give back, and they did in the form of helping to repaint and refit a community centre close to their offices in North London. People like to be helpful. Do you not get a nice warm feeling when you let some fellow driver into a seemingly impenetrable snake of traffic?

---

[2] Hipple , Jack, David Hardy, Steven A Wilson & James Michalski, 2001, *Can corporate innovation champions survive?* Chemical Innovation, November 2001, Vol.31, No 11

[3] I do not have a formal reference for this as the report was not published; the study has been related to me by the person who conducted the research, at the time working for the consultancy Synectics.

[4] Dixon, P. (2005). *Building a Better Business*. Profile Business

Humans are creative by nature; human beings, as a rule, like to belong, and like to feel that they are making a contribution. Many organisations today do not satisfy these needs. People are being treated like numbers – particularly evident in times of 'head count reduction', they are considered a resource to be managed; their views and opinions are often not listened to. Despite this people rush forward to share their thoughts and ideas if companies put out a 'call for ideas', as many have done at the outset of their journey to become more innovative. Those who have put out a call for ideas have generally been overwhelmed with the response – clear evidence for a desire to contribute.

However, most of these initiatives were not prepared for the flood of responses and hence did not respond sufficiently to the submissions; in addition they were also often unfocused and lacking selection criteria which meant that what could have been an inspirational and engaging exercise often turned into a negative experience, leading to disappointment disengagement.

If most employees cannot satisfy their basic needs of belonging and contributing, of being considered as individuals and being listened to inside the organisations they work for, where do they take that energy? Just think about sport clubs run by volunteers, by charity organisations, and so on – these were the outlets until the recent past. Facilitated through the Internet, a new era has started; the internet provides a vehicles that not only satisfies people's desire to belong and to contribute, in addition it also provides a medium through which to express their creativity and make themselves heard.

Observation 2 – beyond crowdsourcing

Given the above this second observation will come as no surprise. However, what would have been your reaction if 10 years ago someone would have told you that masses of people would give their time, most of them for free, to help large corporations develop new (mainly) products? I for one find it rather amazing, and against what one might expect.

Crowdsourcing generally refers to a company asking for input. I can see this changing. People are not waiting to be asked for their thoughts by others, they are pursuing ways to realise their own ideas, with like minded people. If you feel strongly about something there is a great chance that there will other people out there who share that passion, and through the internet it has become rather easy to find these people and connect with them. I came across one rather amazing example – a start-up company in Germany – only recently.

The company, called 'Unser Aller' (www.unseraller.de), is using a facebook application to invite people to come together to design and develop new products. Their first project, aligned with 'traditional' crowdsourcing, was conducted on behalf of a company: developing new mustard recipes by exchanging ideas online, then receiving toolkits to experiment at home followed by again sharing their thoughts and insights again online, all the while refining recipes and even providing input to the design of the label. Their next project, however, was not on behalf any organisation; this one was about the development of bath-bombs, those lovely smelling fizzy bath ingredients. Here it is the community developing the product, designing the packaging – and then also sharing in the profit; the percentage share depends on the number of times logged on, contributions of ideas as well as comments on others' ideas, and the quality of ideas (as rated by others).

Another development I see having a big impact is 3-D printing where I can design a piece of furniture at my computer at home, send the specification to someone with a 3-D printer and get my finished product delivered to my front door.

Admittedly, for now it might be fairly simple products, but I am convinced that advances in technology will allow more complex products to be produced this way.

Observation 3 – …the emergence of social innovation

What I find fascinating is how much of the activity in the crowdsourcing space has social or environmental concerns at its roots. Just to position 'social innovation', the definition of the Young Foundation, which has been promoting social innovation for the past 50 years reads, "innovative activities and services that are motivated by the goal of meeting a social need and that are predominantly developed and diffused through organisations whose primary purposes are social." I rather like the definition offered by Centre for Social Innovation (http://socialinnovation.ca/) which reads, "*Social Innovation refers to new ideas that resolve existing social, cultural, economic and environmental challenges for the benefit of people and planet. A true social innovation is systems-changing – it permanently alters the perceptions, behaviours and structures that previously gave rise to these challenges*."

Of course, such innovation has always happened. To quote from a report on Social Innovation by the Young Foundation, "During some periods civil society provided the impetus for social innovation. The great wave of industrialisation and urbanisation in the 19th century was accompanied by an extraordinary upsurge of social enterprise and innovation: mutual self-help, microcredit, building societies, cooperatives, trade unions, reading clubs and philanthropic business leaders creating model towns and model schools. In 19th and early 20th century Britain civil society pioneered the most influential new models of childcare (Barnardos), housing (Peabody), community development (the Edwardian settlements) and social care (Rowntree)."

The reason for picking it up here is that it seems that it has become much more widespread, and hence is being talked about much more widely; from initiatives driven by individuals it seems to have become more of a movement – enabled and driven what has been described in Observation 1, combined with some deep concerns for the state of our planet and our future as well as a feeling of a responsibility to action the observed challenges. Before the arrival of the internet it would have taken time and resources to identify like-minded others, and to move from concern to action.

Being involved in the teaching of students, generally on slightly outside the box MBA programmes, I have noticed that a large percentage of MBA students take on topics in their project work that reflects social and environmental concerns and considerations. But it is not only the MBA students I encounter, it seems generally that much of what is happening in the field of social innovation is driven by the younger generation, which leads me to Happening No 3.

Happening 3: A new generation that is different

Observation 1 – beyond money matters

Perhaps this is what everyone starting to belong to the older generation thinks: the young generation is somewhat different. But if the saying 'don't keep doing the same things and expect different outcomes' is true, then certainly the reverse is true as well: don't start doing things differently and expect the same results. Given the elemental changes in the way how and where we communicate as well as how and with whom we connect it would perhaps be more surprising if the younger generation weren't different.

And of course, much has been written about Generation Y. One of the things said about them is that unlike many of their parents, they want to work to live rather than live to work.[5] But it is not only money that seems to matter less (if it requires sacrificing living by working too hard); I also get the impression that their social conscience and environmental awareness is stronger developed than in many of the older generations. I have already mentioned that much social innovation is driven by the younger generation.

[5] E.g. the Guardian newspaper quotes research to that accord in their article *They don't live for work ... they work to live*; by Anushka Asthana; The Observer, Sunday 25 May 2008.

The generational differences in values came to light for me particularly in the presentation of the Earth Award finalists. The panel of those quizzing the finalists seemed all grey – from the colour of their hair to the colour of their suits (and all of them were men). The questions of the panellists were around money in general and return on investment in particular – the puzzled faces of some of the finalists clearly indicated that their priorities lay elsewhere.

In the annual report on "Generation Y and the workplace" commissioned by Johnson Control (2010) you can read that "Generation Y values sustainability, is flexible, mobile, collaborative and unconventional. Generation Y is full of contradictions ... They think like entrepreneurs and value relationships, are tech savvy and creative, and are environmentally conscious and mobile.."

Observation 2 – a different ways of connecting and forming trust

Thinking about how my father worked and developed trust and relationships, and how this happens even for me (let alone the next generation) I can observe significant differences. I don't think my father would have travelled half way around the world to speak at a conference just because someone who knew someone he knew invited him. My trust extends by proxy'.

What I mean is, that is someone I trust refers someone else to me, I extend my trust to them. I guess that is only one part, as it is also rather easy to find out about others – and quite a lot – online.

To give you an example, the son of a friend of mine was travelling to Asia. He did not use travel guides nor travel agents but Facebook to plan his journey. It is important to remember that this Generation Y is the first one with little memory of a pre-web world and having the latest technology in their workplace is simply expected. So how else would you plan your holiday trip but go on Facebook and ask people you have never met where to go and what to do?

Observation 3 – seeking a different kind of education

"The current education system is largely failing this generation in terms of preparation for the workforce, especially concerning communication and numerical skills, approaches to learning, creativity, working with others and rewards and development." [6] This statement stems from a report by the UK-based Ashridge Business School.

The aforementioned study by Johnson Control comments on Generation Y and work, "For them, work isn't just a place they go to from nine to five, then go home. They want an office and a work culture that's an extension of themselves and their home life - a place that supports what they value - and it better be green." The leader of this research effort, Marie Puybaraud comments, "That they consider work as a social element in their lives comes through very strongly. For them the workplace is a social construction and work is social. They want emotional engagement and the sense of community. They choose employers [because] they are looking for meaningful work and opportunities for learning, because of quality of life issues and work colleagues." [7]

I am teaching innovation management at post graduate level, generally at slightly out of the ordinary MBAs [programmes]. These programmes are not generally that popular with established educators. They tend to spring up at the fringes, in places that are not in the top 10 traditional MBA rankings – but they attract amazing people, and they are in demand with students. To give just one example, the One-Planet-MBA that Exeter University are setting up in collaboration with the World Wild Life Fund has students queuing up before marketing has even started.

Clearly there is a desire for a different kind of education, an education that takes changed values into consideration.

---

[6] *Generation Y: Inside Out. A multi-generational view of Generation Y - learning and working,* Honore, S. & Paine Schofield, C.B. (2009) Generation Y: Inside Out. A multi-generational view of Generation Y - learning and working, Preliminary report, Ashridge, Spring.

[7] Quoted in *Gen Y's green demands for the workplace* 20 May 2010, Leslie Guevarra, GreenBiz.com, BusinessGreen.

What does this mean for organisations as we know them today?

Let me recap my happenings and observations which were,

- It seems that those who are creative and can innovate are leaving (large, traditional) organisations;
- As people like to belong and contribute and enabled by new technologies they are finding new ways and forms to contribute and express their creativity – and make money from and with it, e.g. 'unser aller' mentioned earlier;
- Younger generation seem to amplify these trends by giving more importance to a life-work balance, using the new media to connect and achieve what is important to them, and seeking education that is reflecting their changing values.

In my view this poses serious and very intriguing questions around the future of organisations as we know them today. Considering the happenings and observations together it seems that there are changes taking place at a wider systems level. What can I imagine the consequences for the shape of organisation in the future to be?

I can imagine the business model of 'unser aller' taking off, where consumers, as individuals or collectively, create and develop products, including the packaging design. I can imagine the manufacturing of such products to work like 3-D printing today, with ever increasing capabilities to turn out ever more complicated and complex products. Safety and environmental regulations are built into the systems, preventing the design and development of products that would harm the environment, and those that are not 100% cradle-to-cradle o go into production. Raw materials are sourced via a computer programmes that know where the most suitable, sustainable ingredients can be found; prices are based on the triple bottom line, i.e. always take environmental impacts into consideration; one of the consequences is increased local sourcing.

From an outright ownership things move to time-based ownership whereby the mentality is not 'we inherit things from previous generations' but 'we look after things for the generations to come'. This shift in mindset overcomes current issues with things that are not owned generally not being treated quite as well as those that are. Such a shift will have been achieved through a reputational system that allows items to be priced based on treatment of rented items in the past, i.e. the more careless someone treats rented items the more he or she will have to pay next time.

Let me imagine a few scenarios:

1. I would like to have a shampoo that suits my fine fair, helps with keeping the grey at bay. There are also certain fragrances I like and dislike. First thing I do is go online and see whether there is someone else already producing exactly what I want. If not, I go to a special website where I can design my own cosmetics. It automatically prevents me from combining ingredients that might have harmful effects.

   If I have a product of which I like the consistency, smell, its properties, I can have it transferred to other cosmetic products such as body lotions and creams.

   I can keep my product to myself or make my recipe available to the wider community for a license fee.

2. I would like a new kitchen table. Again I go online to see what is already out there; if there is nothing I like I can design my own bespoke table. I can also decide whether I make the design available to a wider audience or whether it is for my exclusive use, in which case it would be more expensive.

3. I need a new washing machine. Well, actually I would not really need one, at least it would not be like the ones we know today. Cloths are cleaned via force fields which are integrated into my wardrobe, so every time I hand my things into the wardrobe they get automatically cleaned.

This means...

... that most people are their own company, managing their reputation and 'brand like companies do today; the quality of their reputation will influence who would like to work with them as people will join with others around shared interests, whether it is to build new houses or develop new products or services;

... that profits arising from joint developments are shared based on the input – providing ideas, building on ideas, quality of input;

... that most factories are entirely automated and serviced by robots responding directly to individual consumer demands.;

... that shopping takes place primarily online, offering a visual, tactile and olfactory experience;

... that while designs can be sourced globally, final production or assembly will take place 'at a place near you'.

Whether this is the kind of future we would like, or if we would like a different future, we need to start taking steps to make our desired future happen, now.