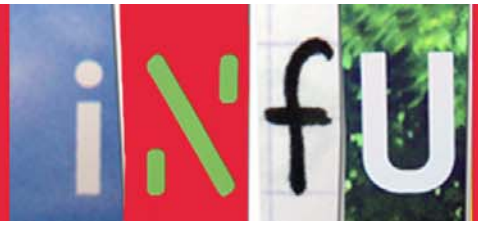
innovation-futures.org

A Foresight Exercise on Emerging Patterns of Innovation
Visions, Scenarios and implications for Policy and Practice



SEVENTH FRAMEWORK PROGRAMME

Innovation Futures: How will we innovate in the future?

Karl-Heinz Leitner, Austrian Institute of Technology

Hanken Focus Forum: The Future of Innovation, Helsinki, 16 April 2012

AIT AUSTRIAN INSTITUTE OF TECHNOLOGY

punkt The Foresight Company

SDS STRATEGIC DESIGN SCENARIOS

Fraunhofer ISI

Research Question of the INFU Project: How will innovation be organised in the future?

- With “new innovation patterns” we mean novel emerging concepts, ideas and strategies how the innovation process is organised but also well-known trends, which are of importance so far only in specific industries or areas but may have a larger impact on or potential for other areas in the future.
- We have broad understanding of innovation:
  “Innovation is the creation of new products, process, technologies and services that are accepted by markets, governments and society.”
- Project approach: INFU is a foresight process combining the elements weak signal scanning, development of visions, scenario construction and assessment

- Foresight assumes that there are many futures, and through the mobilisation of interested stakeholders it is feasible to develop a fuller understanding of the forces shaping the long-term future.

Identification of signals of change


Boom in Crowd Sourcing


Crowdsourcing at the White House


Innovation network corporation


High Transparency at Dell Idea Storm


Google / Institutionalising the Free Creativity


Fully Sponsored Innovation Camp for Young People


User Innovation Knowledge.


24h innovation marathon


CoWorking houses as creative hubs


Future Concept Lab


High Prized Open Innovation Competition


Save our Energy


Sample Lab / Tryvertising


Fashion Blogs / Diffused creativity


Top-Secret Innovation


Product Piracy Cases


Global Ideas Bank


The Open Source Car


Fab Labs / Fabrication Laboratories for Everyone


Career and Community Site for Creative Professionals

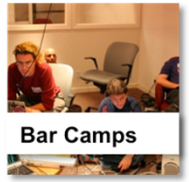

BILDR / Building Modular Know-How


Demand for More Open Patent System


Creative Commons


MINATEC / L'atelier Arts & Science


Design Council RED - Open Health


Bar Camps


PONOKO / Everybody designs


ARDUINO / Open Hardware


Real-Time Social Search


Scientific Open Online Platforms for Widening Researchers Communities


Rapid Innovation Testing


Fusion of Product and Service Innovations


LEGO Digital Designer


Treadless / Typetees


Conifer / Ethnographic Research Approaches in Design


The Rise of Spec-Design Sites


Software Support Tool for Product Innovation


In-NO-vation


No-Innovation as a Design Guideline


Reduced Security Control to Push Innovation


Design Thinking in MBA Programs


Re-Design


American Apparel / Insourcing


Israeli Model / Governmental Supported Start-ups


Designed Randomness


Virtual Innovation


Edison / Match-Making for Innovators and Companies


Creative Communities for Sustainable Lifestyles


ISEU / Designing energy saving practices


Immersion in Public Institutions to Stimulate Innovation


Systems of Living for the Cité du Design


Social Innovation in Uganda


E-Courses for Becoming E-Mentors


DOTT / Design to Support Social Change


Tata Jagritiyara / Relocate the Young Indian Entrepreneurship to the Local Scale


Reverse Innovation


Low Cost Car from India


Cradle to Cradle


Activating the Neighbourhood


Demand and Supply Driven Innovation Policy


Enabling Cards


TATA / Innovation Part of Corporate Culture


Biotech boom in china

Amplification of signals to construct visions

Selection of signals

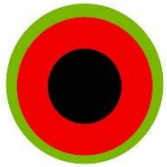
Amplification of selected signals

Transfers to other sectors, to other user groups...

e.g. from fashion to furniture industry; elderly people instead of kids or vice versa...

Generalisation as the mainstream practice...

e.g. what if active users involvement in innovation processes would become the default…



Radicalisation of the principle...

e.g. what if the entire innovation process is externalised to a user comunity...

1_Bringing outside in...

What if the idea creation process is fully externalised?

2_Innovation on request...

What if companies generated innovations from user communities?

3_Negotio-Vation...

What if innovation became publicly negotiated?

4_Innovation Marketplace...

What if companies externalised innovation to an open innovation marketplace?

5_Public Experimentation...

What if experimentation was at the core of innovation?

6_CIY Create It Yourself...

What if people produced products themselves in fabrication laboratories ?

7_Laboratory Stores...

What if stores were to become labs where firms and customers co-developed innovations?

8_Open Source Society...

What if open source development became an all compassing innovation pattern?

9_Innovation Campus...

What if companies collaborated in joint innovation places?

10_Innocamps...

What if people innovated together in proper places?

11_No-innovation...

What if innovation fatigue took over and No-Innovation was en-vogue?

12_Innovation Imperative...

What if the emphasis on innovation spread to all workplaces?

13_Innovation meets Education...

What if innovation skills were on the education agenda of Kindergarden?

14_Darwin's Innovation...

What if companies used digital systems to randomly create and test innovation?

15_Web-Extracted Innovation...

What if we scanned the internet for ideas and automatically picked the best ones?

16_Virtual-Only Innovation...

What if many innovations were enjoyed only virtually?

17_Waste-based Innovation...

What if the principle of "Waste equals Food"/"cradle to cradle" was widely adopted?

18_Relocated Innovation...

What if the bulk of innovation were to come from today's emerging markets?

19_90% Innovation...

What if innovation was directed at population living in poverty?

20_City driven Innovation...

What if cities became stronger actors in the field of innovation?

Innovation on request...

What if companies generate most innovations on special request from user communities?

Communities of users develop together with sociologists, designers and developers innovations and sell them to companies.

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.

Innovation Campus...

What if companies would collaborate in joint innovation places?

Innovation laboratories are hosting range of developers detached from their companies to take part to joint innovation programs. 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.

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. Innovation becomes something that is taught as a matter of course, just like the ABC.

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.

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.

90% Innovation…

What if innovation was primarily directed at the “other 90%” of the world population living in poverty?

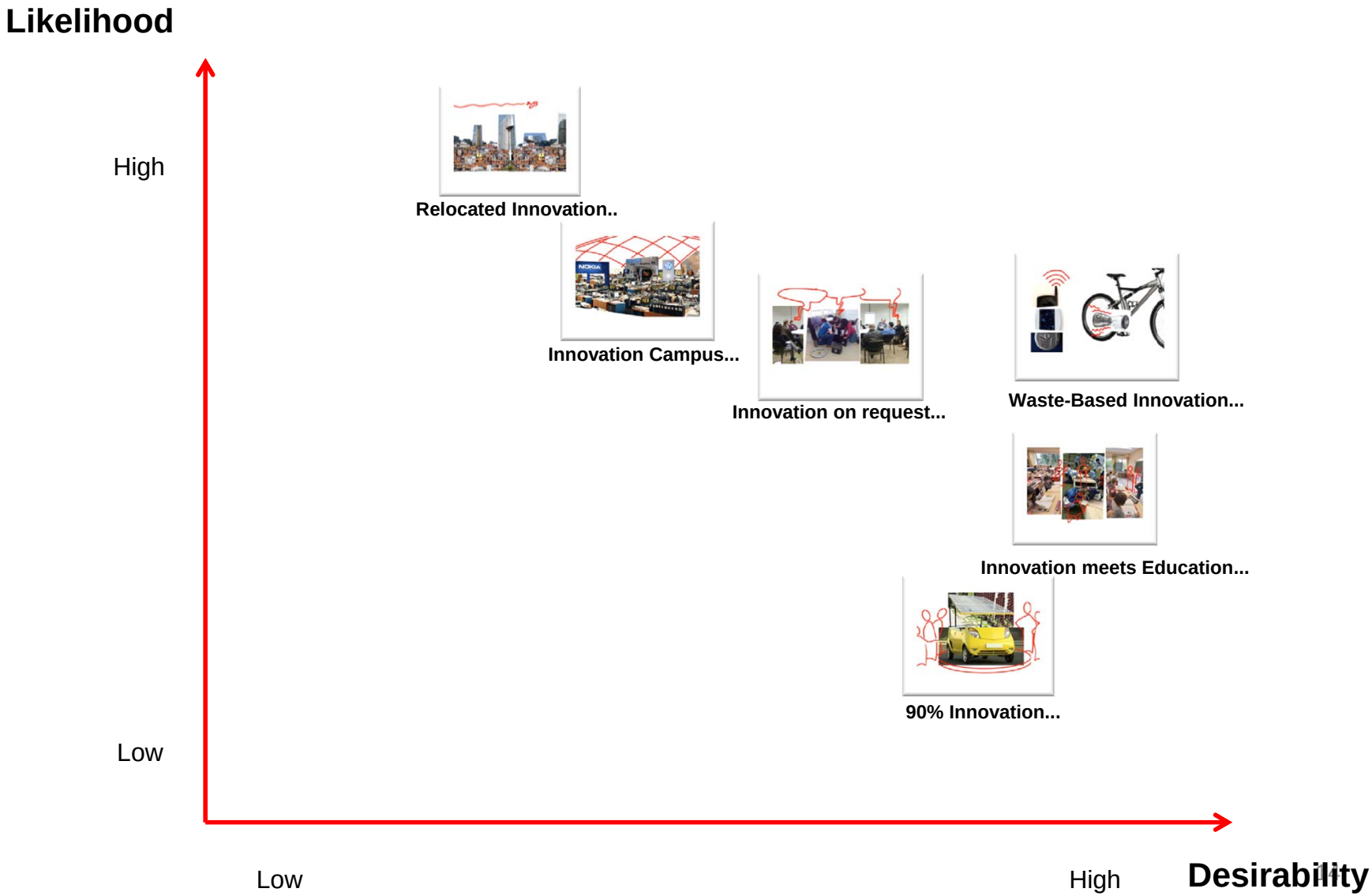
Extreme low cost/high innovation strategies prevail. Rich world companies struggle as they lack the competences and culture required. Innovators from today’ emerging markets do much better due to their longstanding experience.

Waste-based Innovation…

What if the principle of “cradle to cradle” was widely adopted?

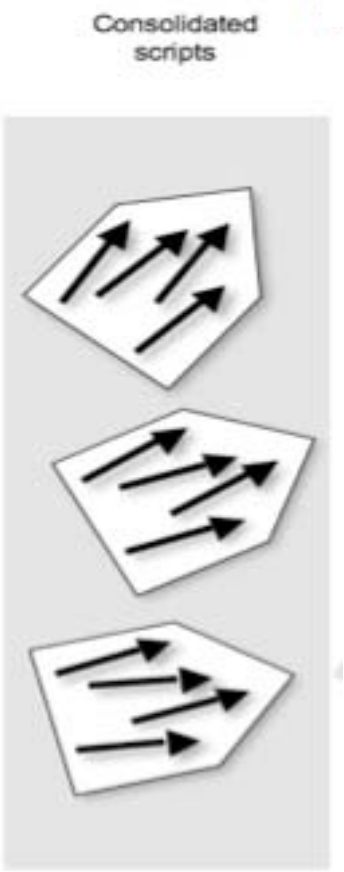
Instead of raw material databases with used components and materials serve as a starting point for innovations. The whole world becomes one eternal circle. Everything that is made of something is part of making something.

Assessment of visions



INFU Survey, N=60

From innovation visions to consolidated visions



- Evaluation of 20 visions in an online survey (60 participants) according to clarity, newness, impact, desirability, likelihood
- Discussed in detail with 20 experts from industry & academia

Clustering & Selection

Outcome: 8 consolidated visions were identified. These visions were elaborated in Mini-Panels across Europe by self-organised expert groups

Opportunities, risks and consequences

1. **New forms of coordination and mediation:**
   - The role of markets as mediators between innovation supply and innovation demand is losing relevance while communities (e.g. web-based co-design) within and external to the companies are gaining importance.
   - Companies have to initiate self-organisational processes which are more difficult to control.
2. **Increasing participation:**
   - Citizens gain relevance in innovation both in deciding on innovation priorities and in contributing to the innovation process.
   - However, too much participation and to little coordination may slow down the innovation process or result in „consensual solutions“ with low innovativeness.
3. **Motivation for Innovation:**
   - Profit as the main driver of innovation activity is being challenged. Individual persons contributing for pleasure and social entrepreneurship are more relevant.
   - Companies have to develop new hybrid business models (e.g. 3 P Business Models: Profit, People, Planet).

Opportunities, risks and consequences

4. **Eco-Innovation and Grand Challenges**:
   - Innovation patterns with reduced negative impact on ecosystems are on the rise, - the intended output drives also the process.
   - In particular, system innovations fostering transition towards sustainable patterns of production and consumption are realised. Innovation fostering circular resource flows (cradle to cradle innovation) are one strategy to reach such goals.
   - However, fully bottom-up participation alone is not necessarily to bring about the system changes required: too much participation and experimentation may not result in stable (optimal) solutions, upscaling, transfer and standardisation are required.
5. **Use of technology and software to automatise innovation:**
   - More and more innovation steps may become automatised, e.g. by using web crawler to identify ideas or generate randomly product variants.
   - Challenges for data security and maintenance for true human creativity.

Opportunities, risks and consequences

6. **Perception of creativity:**
   - Creativity may become a key aspect in all professional activities ("Innovation society").
   - However, we have to take care that negative aspects are avoided, e.g. innovation or participation fatigue.
7. **Regional shifts of innovation towards GLocalisation:**
   - Opportunities for the development of regional, sustainable solutions.
   - New opportunities on emerging countries with the design of specific and more simple products.

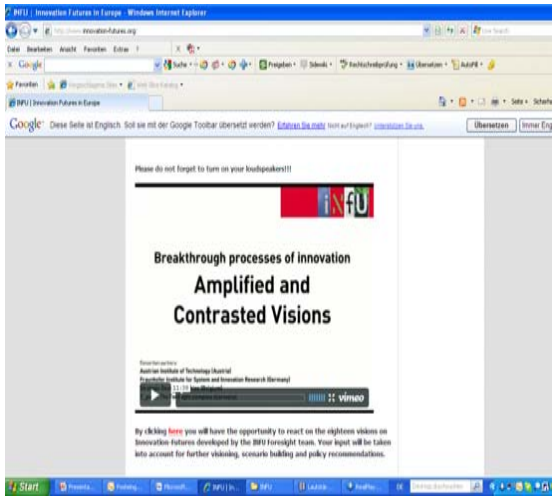
Different groups will shape the direction of development …

- Companies: Innovate not just for aiming profits but also to meet societal and ecological needs
- Citizens and customers: Use the opportunities to participate and thereby shape the direction of development
- Policy: Allow wider levels of participation, guide the direction of development by demand-side policies (“grand challenges”), perform the role as regulator, and serve as mediator for system integration

Information and contact

For more information, publications and videos see:

www.innovation-futures.org



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