



tactics tactics tactics

Better cluster policies and tools for implementation

Fostering User-Driven Innovation through clusters

WHAT IS TACTICS?

TACTICS (*Transnational Alliance of Clusters Towards Improved Co-operation Support*) aims at supporting and further expanding the European Cluster Alliance, and contributes to the development of better cluster policies and practical tools for implementation in Europe. The project is one of the three INNO-Nets within the PRO INNO Europe initiative under the Commission's Competitiveness and Innovation Programme from DG Enterprise and Industry.

TACTICS, coordinated by **OSEO**, the French national organisation supporting SMEs and mid-caps development, brings together seven of Europe's leading national and regional innovation and cluster policy organizations – namely **VINNOVA** (SE), **TMG Upper Austria** (AT), **Manchester Metropolitan University** (UK), **IWT Flanders' Innovation Agency** (BE), **Veneto Innovazione** (IT), and **PARP** (PL). The partners, committed to improving policy cooperation and with a track record of experience with clusters, have been assisted by a Reflection Group of external cluster policy experts.

Six task forces discussed actual or proposed policy actions, coming up with concrete policy recommendations on the following topics relevant to cluster policy: fostering international cluster cooperation, channeling RDI funding through excellent clusters, fostering user-driven innovation through clusters, supporting cluster marketing and branding, evaluating impact of cluster-based policies, using excellent clusters to address emerging industries (including innovative services).

TACTICS claims that cluster initiatives can

- improve the performance of the innovation support system
- leverage the renewal of European industry
- engage SMEs in research and innovation support programmes
- play an important role within smart specialization strategies
- gain competitive advantage by internationalising, boosting their visibility and attractiveness, and involving users in innovation processes.

For its covers, TACTICS series of publications gets inspiration from several works of art or uses digital pictures recalling the positivist and optimistic vision of pictorial movements flourished between the XIX and XX century. Each image can be given an interpretation according to the main message of the publication. The works were chosen because their subject and the use of the light and the colours can be easily associated with the idea of innovation, movement and progress embodied by the clusters.

Cover credits: August Macke "Garden on the Lake of Thun", 1913. Kunstmuseum, Bonn.

The detail of a plant growing in a garden recalls the idea of nourishing relationship lying under the concept of User-Driven Innovation when applied to clusters. Innovation can be developed thanks to the engagement of users, like a plant is nurtured with external resources.

This publication is released with no commercial purposes. The cover image, inspired by the above-mentioned work, has been freely reworked by the authors.

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Better cluster policies and tools for implementation

TACTICS TF3: User-Driven Innovation,
Involving excellent Clusters

© TACTICS - September 2012

This work has been coordinated by IWT,
with the contributions of TACTICS partners and Reflection Group members.

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This publication has been produced as part of the PRO INNO Europe initiative. The views expressed in this report, as well as the information included in it, do not necessarily reflect the opinion or position of the European Commission and in no way commit the institution.
This publication is financed under the Competitiveness and Innovation Framework Programme (CIP) which aims to encourage the competitiveness of European enterprises.



consortium



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Executive Summary

Although User Driven innovation – as an activity – is not new, the topic is relatively new in policy circles. As presented in the draft input paper “Fostering User Driven innovation through clusters”, forms of innovation support have changed over the years. Most recently, public authorities have adopted strategies and policies to support (among other things): multi-disciplinary education and research, cross-fertilization of innovation activities across sectors, cluster initiatives and other (open) platforms for innovation collaboration and internationalization, as well as activities aimed at applying innovation to global and societal challenges.

It is important to highlight that Users encompass a large range variety of stakeholders:

- end Users (i.e. consumers), but also
- business Users (i.e. customers in the value chain),
- the public sector (e.g. in cases where the public sector procures various products and services), and
- society at large (e.g. where certain regions or countries are viewed as “lead markets” for new products/services).

Cluster initiatives and organizations (called clusters further in this report) are related to this, as they can be used as neutral platforms for collaboration between companies, the public sector and end Users (through e.g. living labs, test beds, and demonstration facilities), and as vehicles for applying other support measures (e.g. pre-commercial public procurement, innovation vouchers, etc.).

Cluster organisations aim at bringing the different forms of innovation support together and at customising them according to the needs of the enterprises in a given regional economic environment.

This paper provides a brief overview of the theme, summarizes the input and reflections from project partners and reflection group members and provides a number of methodologies and practical approaches (tools) to be used by cluster organisations to support enterprises in User Driven Innovation.

1. Introduction to USER DRIVEN INNOVATION, Involving excellent clusters - an overview of the theme

1.1. What is User Driven Innovation?

The “new nature of innovation” is characterized by a globalized and digitalized world, more active participation of individuals and networked communities, and an increased need for companies to access skills and resources outside of corporate borders to solve complex challenges.¹ Companies are increasingly adapting to this new approach – opening their innovation processes, adopting new methods for gaining insight on user needs and behaviours, and involving users earlier and in different ways in innovation processes. User Driven Innovation (UDI) makes use of information on customers, user communities and customer companies, and engages users as active participants in innovation activities. The term “users” encompasses consumers, other businesses, and the public sector. The aim of User Driven Innovation processes is to develop new concepts, products and services that address user needs (acknowledged and unacknowledged) and values. Thus, the innovation process is based on an understanding of user’s needs and experiences (rather than being based on a particular research discovery, idea or technology).² User Driven Innovation is a demand-led – rather than a supply-led – process. For many companies, this necessitates a change in mindset and different ways of working. Companies and organizations can work with User Driven Innovation in different ways (see next section). In some cases, companies engage Users as active participants in the innovation processes; in

other cases, companies indirectly “tap into” User needs and behaviours. Either way, User Driven Innovation can be considered as a sort of open innovation – where firms “use external ideas as well as internal ideas, and internal and external paths to market, as (they) look to advance their technology.”³

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CONSIDER THAT:

- ◆ User Driven Innovation is more than asking a few users about their ideas – User Driven Innovation is a process.

1.2. Users and clusters in User Driven Innovation

The Nordic Innovation Centre (NICE) report “Creating new concepts, products and services with User Driven Innovation” distinguishes the different forms of users’ involvement in innovation processes in four main categories:

- user exploration,
- user participation,
- user innovation, and
- user tests (see illustration on the next page).

The report describes the history, main tools, and the role of the user for each of these categories.

¹ See FORA (2009), New Nature of Innovation

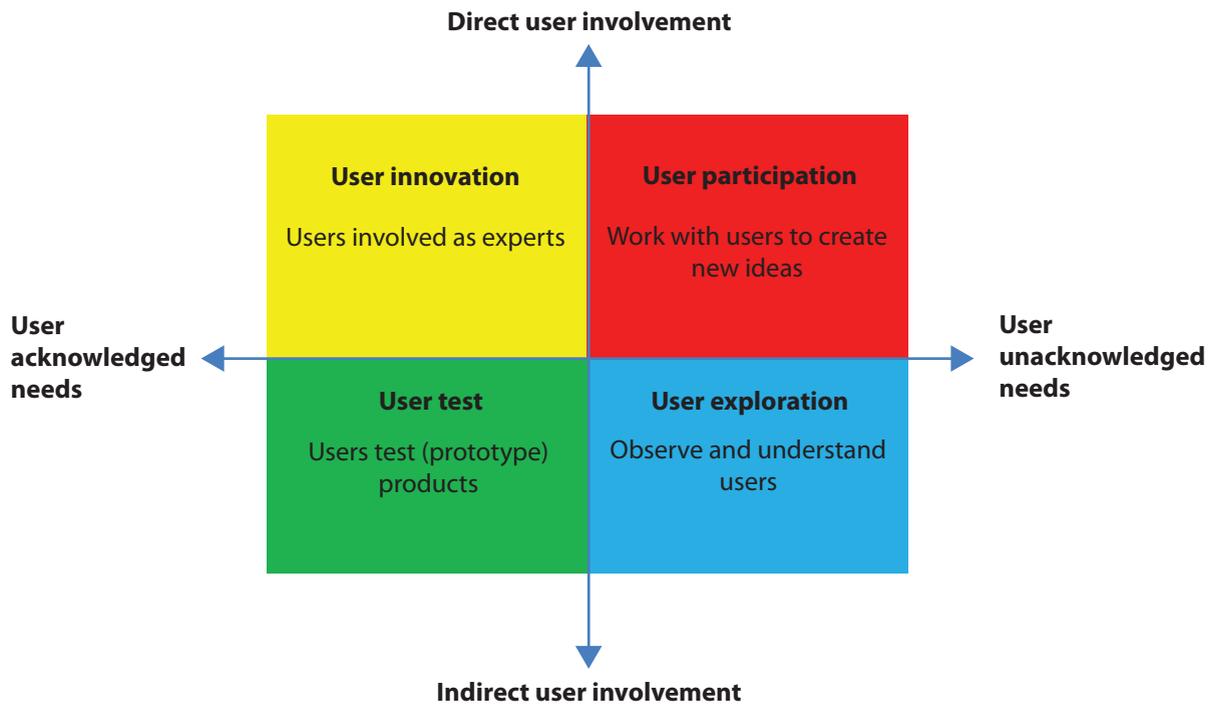
² It must be highlighted that user-driven innovation processes are not based SOLELY on user needs and experiences, but rather employ this as the starting point – incorporating technology and business aspects at later stages.

³ Chesbrough (2003), Open Innovation

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Based on the framework presented in the NICe report, the various roles/tasks that clusters can take on in the different categories of User Driven Innovation to support user involvement in firms are presented below.

Figure 1: User Driven Innovation from a company perspective

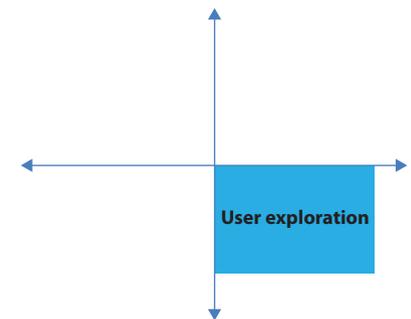


Source: NICe/FORA (2010), Creating new concepts, products and services with User Driven Innovation

1.2.1 User Exploration

(indirect user involvement, focus on unacknowledged user needs)

User exploration has its roots in anthropology, psychology and ethnology. The purpose of user exploration methods is to observe and understand users, their actions and their habits in a cultural context. Common user exploration methods include video ethnography, user diaries, and shadowing of users. These methods are often followed-up by personal interviews. In general, companies used these methods at very early stages of their innovation processes. User exploration was the most popular method used by projects surveyed in the NICe report (with 63% of respondents employing user exploration methods).



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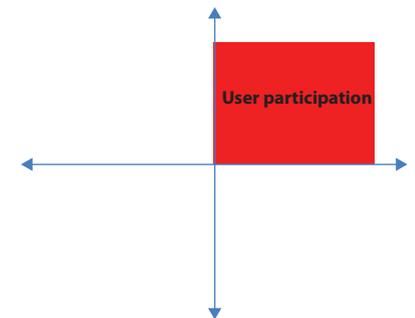
POSSIBLE ROLES/TASKS FOR CLUSTER ORGANIZATIONS WITHIN USER EXPLORATION INCLUDE :

- ◆ Identify potential target groups for user exploration activities of cluster firms
- ◆ Support cluster firms in user exploration activities
- ◆ Identify technological needs of cluster firms
- ◆ Act as a neutral broker between cluster firms, users and supporting institutions
- ◆ Support cluster firms in tapping into global knowledge sources through international cluster cooperation

14 1.2.2. User Participation

(direct user involvement, focus on unacknowledged user needs)

User participation has its roots in participatory design. The purpose of user participation methods is to work together with users to create new ideas. Focus is placed on tapping tacit knowledge from the users which can be used to understand their unacknowledged needs. These can then be interpreted by companies and used to create new solutions to users' problems. User participation methods include provotypes , cultural probes, experience prototyping and props. Companies and users (e.g. consumers, business customers, and employees) develop new ideas together (working continuously together in the innovation process). User participation methods were used by only 23% of projects surveyed in the NICe report (the lowest response rate).



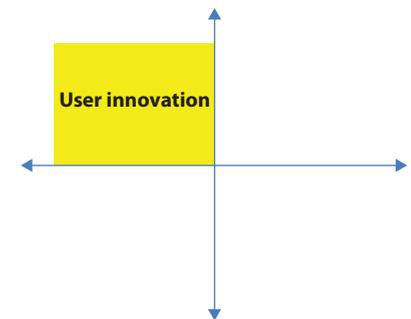
POSSIBLE ROLES/TASKS FOR CLUSTER ORGANIZATIONS WITHIN USER PARTICIPATION INCLUDE:

- ◆ Facilitate contacts between cluster firms and other clusters on a regional and international basis (to test new products and services)
- ◆ Act as a neutral broker and platform to share risks between cluster firms, users and supporting institutions in their user participation activities (including research activities)
- ◆ Provide infrastructure or services (e.g. living labs, demonstration platforms or test beds) to facilitate user participation activities between cluster firms and their users
- ◆ Incentivize user participation/user innovation by organizing competitions and offering vouchers to users on behalf of their cluster firms to test new products and services
- ◆ Facilitate business-to-public sector cooperation on innovation addressed at societal challenges (through e.g. pre-commercial public procurement)
- ◆ Identify potential R&D resources for early involvement in developing initial concepts

1.2.3. User Innovation

(direct user involvement, focus on acknowledged user needs)

User innovation takes place when companies work closely together with users and involve them as part of the innovation team in certain steps of the innovation process. Users can either be experts or advanced users. The purpose of user innovation methods is to tap specific knowledge which can often not be found within the company. By including experts and advanced users in the innovation process, companies can better understand what solutions are needed to solve the challenges faced by their everyday users. User innovation methods include expert workshops (also including experts from related industries), and long-term involvement of advanced users either on-site or at distance (only sometimes with compensation). Users innovate for and together with companies, often in a long-term, continuous innovation process. User innovation methods were used in 29% of projects surveyed in the NICe report.



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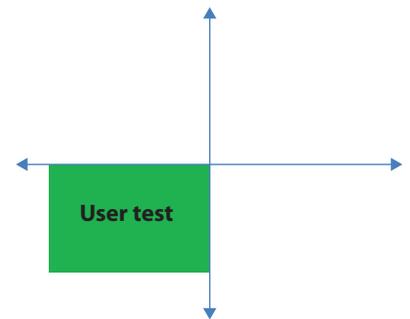
POSSIBLE ROLES/TASKS FOR CLUSTER ORGANIZATIONS WITHIN USER INNOVATION INCLUDE:

- ◆ Facilitate identification of experts and advanced users (even internationally)
- ◆ Act as a neutral broker between cluster firms, users and supporting institutions in their user innovation activities
- ◆ Provide infrastructure or services (e.g. organize web platforms, host workshops) to facilitate user innovation activities between cluster firms and their users
- ◆ Incentivize user participation/user innovation by organizing competitions and offering vouchers to users on behalf of their cluster firms to test new products and services

16 1.2.4 User Tests

(indirect user involvement, focus on acknowledged user needs)

User tests of products or services are a common activity that companies have undertaken for decades. The purpose of user tests is to verify user interest in purchasing the developed product/service, and to make minor adjustments (based on user feedback) before launching on the market. User test methods include focus groups, conjoint analysis and multi-attribute analysis. The methods are used to evaluate and refine, rather than to create something new. User tests are conducted either directly before or after a product or service is launched on the market. User tests were the second most popular method used by projects surveyed in the NICe report (with 50% of respondents employing user test methods).



POSSIBLE ROLES/TASKS FOR CLUSTER ORGANIZATIONS WITHIN USER TESTS INCLUDE:

- ◆ Identification of potential target groups for user test activities of cluster firms
- ◆ Support cluster firms in user test activities (e.g. conducting market and user analysis)
- ◆ Act as a neutral broker between cluster firms, users and supporting institutions
- ◆ Support cluster firms in tapping into global knowledge sources through international cluster cooperation

2. CLUSTERS AND USER-DRIVEN INNOVATION, an opportunity for demand-led innovation

2.1. Companies need support to implement User Driven Innovation processes

In User Driven Innovation a non-traditional party i.e. 'the User', needs to be involved in the innovation process (as test-user, expert, study-object or innovation partner). Most companies have no or little experience how to involve and interact with 'the User' in their innovation process. UDI clearly adds some additional complexity and burdens to the traditional innovation process.

The successful involvement of the User in the innovation process of a **firm requires**:

- The **awareness** that the User has some added value to offer to the traditional innovation process
- An add-on to the **management** of the traditional innovation process to cope with the further complexity of involving Users and new methods and tools
- The right **technical and legal setting** to involve the User in the innovation process and hence make it a UDI-process
- In some cases substantial additional **financial** means to involve the User to the full extend in the innovation process

The complexity of the UDI makes that clusters can provide added value to their member companies by using the critical mass and exploiting the common needs of the cluster companies.

CONSIDER THAT:

- ◆ A lot of companies have no or little experience on practical implementation of User Driven Innovation
- ◆ Clusters can act as independent parties to help companies

2.2. The Benefits of Cluster Involvement in User-Driven Innovation Processes

In general terms, clusters (or rather cluster initiatives or organizations – CIs or COs) are ideal instruments to stimulate and facilitate User-Driven innovation processes, no matter which model is being applied. Their strength lies in their ability to act as an independent party, to mobilize key elements of the company's value-chains and to apply various expertise/skills to specific problems.

As clusters **initiatives or organisations** are perceived as **independent from single companies interests**, they can **facilitate access to key actors** such as end-users, experts, technology partners, research actors, marketing experts, project managers, sources of financing as well as to various institutional partners (including other living labs in Europe, for example). In addition, clusters are often well-suited to identify synergies between actors in a geographical region (as well as with partners in other regions both nationally and internationally) – bringing together complementary expertise from many sectors and geographies.

18 Clusters are also well-suited to **provide a neutral platform to support User-Driven Innovation processes** in cluster firms and research organizations as well in B2C as B2B context. Clusters can offer or mediate the provision of infrastructure (e.g. living labs or demonstration platforms) and services (e.g. awareness-raising and educational activities) to spread knowledge on methods and make them available to more companies – particularly SMEs; brokering services described above; and even research, development and commercialization services. By serving as a neutral platform to test (new) User-Driven research and development methods, clusters are able to decrease costs and risks for participating companies/institutions, and strengthen joint innovation processes.

Furthermore, in Business to Government setting the clusters are useful **partners to the public sector** (in e.g. pre-commercial procurement activities), as they involve a broad range of companies and may offer effective mechanisms for increased User/civil society involvement in innovation processes.

In summary, clusters (thus CIs and Cos) are excellent vehicles to enable cluster firms and institutions to broaden the range of methods used in their innovation processes – providing access to and facilitating joint development platforms/services, and increasing the possibilities for more direct User involvement.

2.3. Role of clusters in facilitating User-Driven innovation processes

Based on the overview of the various roles/tasks that cluster organizations can take on to facilitate UDI processes (input paper <http://www.proinno-europe.eu/eca/page/tf3user-driven-excellent-clusters>), discussions during the workshop with project partners and reflection group members highlighted the following roles/tasks as the **most important**:

- Create **awareness** and **incentivize** user participation/user innovation activities among cluster firms/research organizations by:
 - Providing general, easy accessible **information** on User Driven Innovation and illustrating the process with practical cases
 - Train the trainer: provide **training** for cluster managers on User Driven Innovation tools
 - Providing **infrastructure** and/or services (e.g. living labs, test beds) to cluster members
 - Offering financial incentives (e.g. vouchers or funding bonuses) for experimenting with User-Driven innovation methods
- Facilitating access to clusters/cluster organizations elsewhere to access knowledge sources or user groups in other markets, e.g.:
 - **facilitating access** to living labs or test bed facilities elsewhere – to prepare products/services for other markets

- **linking up complementary** User-Driven innovation/living lab activities (example given of linking up food cluster initiative in DK with complementary Clusters in NL)
- Targeting/establishing links with actors within a cluster, or with other clusters to help solve:
 - problems/user needs from **companies within a cluster** (i.e. facilitating business-to-business User Driven Innovation processes)
 - problems/user needs expressed from the **public sector** (i.e. facilitating responses to public procurement of “innovative solutions”)...

from University of Southern Denmark

- <http://www.lltoolbox.eu/methods-and-tools/finding-opportunities> a result from the project ENoLL Nordic, financed by the Nordic innovation centre

CONSIDER THAT:

- ◆ Clusters can act as independent parties in B2B, B2C and B2G context
- ◆ Clusters represent a group of companies and not the interest of 1 specific company

2.4. Tools and methodologies for clusters in UDI:

In general, the “Users” in User Driven Innovation can be other businesses (B2B context), end users (B2C context) or the public sector (B2G context - Public Procurement of Innovation).

In this paragraph tools and methodologies that clusters can implement to support UDI at companies will be described in each of these three types of user context. The discussed examples are all taken from real cluster experiences in User Driven Innovation.

Operational tools and methodologies to support UDI (brainstorm techniques with users, manage user test, user surveys, ...) are made available by a number of organisations. A few are listed below :

- <http://www.innotour.com/innovation-tools/user-driven-methods/>

For B2B, B2C and B2G

- Training program for cluster managers

In the philosophy of “train the trainer” it is important to have cluster managers brought up to expert level on User Driven Innovation methodologies and tools to be used to implement a User Driven Innovation process.

Several courses on international level are organised on general cluster management, sometimes including topics on User Driven Innovation:

- <http://www.cluster-excellence.eu/training.html>
- <http://www.clustercollaboration.eu/library>

20 Some cluster program owners organize specific training adapted to the need of the cluster managers. The following example is an illustration of this where REGX organised “The Danish Cluster Academy” a cluster facilitator training program to improve cluster manager skills.

- <http://www.cft.regx.dk/>

The cluster facilitator training programme consists of 6 modules and over 20 professional instructors contribute to the training. The full course runs over a one year period and each module is a two to three full day intensive training. Various topics are included, from general cluster management to cluster branding. During one of the modules the innovation toolbox is introduced, including a specific topic on User Driven Innovation. During this three day training on User Driven Innovation, cluster managers are introduced to tools and methodologies to facilitate User Driven Innovation process in their member companies. Brainstorming, user- and experience journeys, data sense making, conceptualizing,... and many more topics are part of the training.

REG X’ cluster facilitator programme aims at providing participants with the necessary tools and knowledge to support the development of clusters from the early phases of a cluster initiative to the more mature phase of clusters in which innovation is the driving force of cluster development.

CONSIDER THAT:

- ◆ Clusters can provide hands-on training on User Driven Innovation methodologies
- ◆ Clusters can adapt the training to the specific needs of the participating companies

For B2B

- Designers from design companies in contact with product and service developing companies

CONTEXT : HUMIN, a project developed for Flemish SMEs and start-ups that creates competitive advantage through **people centred innovation**. HUMIN puts design at the heart of every business, enabling Flemish managers to become more effective and more successful. The project was initiated and sponsored by the Flemish Design Cluster (Flanders In Shape), a Flemish province (Limburg/Genk), and Design Region Kortrijk. Results of the project HUMIN can be found at www.humin.be – partially in English.

UDI METHODOLOGY: translate the view of the User to create new product/services. (fits in “establishing links with actors within a cluster to help solve User needs from **companies within a cluster** - i.e. facilitating business-to-business User-Driven innovation”).

The focus of the project is on creating **awareness** among company managers to the fact that considering the view of Users in the creation of new product or services leads to more successful innovations. **Design methods are used to translate** the Users' insights into tangible, bottom line benefits for business.

UDI TOOLS: Cluster organisation provides training to designers. Designers have been trained to become 'Design Mentors' for companies. The cluster organisation first selected a group of designers who already had experience in User design methodologies. Secondly, these designers were familiarised with the project HUMIN, and became versed in the language necessary to speak to companies intelligently, in terms that business people understand. This was followed by participation in the **people centred design workshop**, to understand the methodological basis for the project.

UDI TOOLS: Cluster organisation provides training to companies. This training programme was set up to create **awareness** and to ensure knowledge provided by designers is **understood** by the company managers involved. The companies taking part in this HUMIN project were also asked to make a formal commitment to the project.

UDI TOOLS: Personal coaching of companies to implement UDI methodologies in companies. Designers entered into an 18 month relationship with a company, whereby they are responsible for 10 single day, or 20 half-day, interventions. During these interventions, the Design Mentors provide advice, briefing skill and project management, but not actual design consultancy.

UDI TOOLS: B2B workshops to support implementation of UDI methodologies in companies. B2B workshops were organised in a peer-to-peer set-up. In discussions with other companies and designers, companies learned that the development of new successful products or services is not only a matter of optimisation of their own product/service but is also a matter of considering views from Users. In this peer-to-peer set-up companies also learned how to shape an absorptive environment in their home-company for the use of people centred design methodologies for new developments; e.g. they discussed how to convince high level management, co-workers,... to work together on the new developments.

UDI METHODOLOGY TRANSFERABILITY: clusters can select a group of people (in this case the designers) and train them to become UDI mentors. The UDI mentors coach companies on an individual basis throughout the process to include the view of the end user in the development of new products or services. This coaching is a process and not a one-time intervention of the designer. Awareness creation and training of the companies is as important as the training of UDI mentors. Companies need to be 'open' for this approach, assure an absorptive environment and be committed to spend time and effort in this UDI process.

CONSIDER THAT:

- ◆ Clusters can provide hands-on training for User Driven Innovation mentors
- ◆ UDI mentors coaching of a company to implement User Driven Innovation is not a one-time intervention

For B2C

- Connecting businesses to User groups

CONTEXT : ILab O (Flanders), end-user involvement from cluster organisation : IBBT (www.ibbt.be)

IBBT (Interdisciplinary Institute for Broadband Technology) is an independent research institute founded by the Flemish government to stimulate ICT innovation. The IBBT team offers companies and organizations active support in research and development. It brings together companies, authorities, and non-profit organizations to join forces on research projects. Both technical and non-technical issues are addressed within each of these projects.

UDI METHODOLOGY: ILab.o offers assistance on User Driven Innovation to its member companies as an integrated service. (fits in “Incentivizing user participation/user innovation activities among

cluster firms/research organizations by providing **infrastructure** and/or services (e.g. living labs, test beds) to cluster members”).

iLab.o uses a so-called ‘Toolbox’ to set up and manage “User Driven Innovation” projects. The ‘Toolbox’ is a collection of services iLab.o sets at the disposal of companies that want to start a living lab project.

Tools (offered services) in 5 domains : methodology, panel management, rapid prototyping, business modelling and networking.

UDI TOOLS: Methodological support: Each set-up and context of a User Driven Innovation project requires a specific approach. One cannot compare research in a living lab setting with conventional user research of classical testing methodology. The iLab.o employees have ample experience with different research methodologies and have access to specific examples and scenarios. They can draw on this experience to determine the optimal approach for each specific User Driven Innovation project. Furthermore iLab.o keeps investing in the development of new research methodologies that can contribute to better results.

UDI TOOLS: Panel management: iLab.o holds a team of experienced panel managers to support and coach all the ‘test users’. They take care of the set-up and maintenance of a large and detailed database of test users allowing them to start working with a broad panel of relevant profiles very fast. Currently the user-database contains over 6500 user profiles, of which over 2500 have declared their

commitment to participate in new projects. The panel managers help selecting the right user profiles and will maintain communication with them throughout the project. This means that they will invite and motivate them, take care of the follow-up during the project and make sure of their active involvement and feedback through direct contacts as well as anonymized registration of their user patterns.

When a cluster-member company wants to involve Users in their innovation process, they have access to this large number of end users through the cluster.

UDI TOOLS: Rapid prototyping: Rapid prototyping is a general term for the fast manufacturing of physical prototypes. As testing in a living lab requires that Users can interact with the new product or service in their daily surroundings, member companies make use of this service offered by the cluster organisation in order to make ideas tangible, often even touchable.

When a product is still in the conceptual phase, iLab.o can rapidly provide prototypes, mock-ups or products or services, so as to offer new ideas or concepts in the early stages to assess their potential.

UDI TOOLS: Business Simulation: iLab.o supports the development of business models and directional roadmaps for the new service or product being developed in the User Driven Innovation project. Since most new ICT services and products have a complex composition of (possible) stakeholders, this specific cluster organisation usually works with simulation models which are elaborated in

workshops.

The stakeholders' roles and position in the value chain is visualized and mapped interactively and several possibilities get to be further detailed and discussed with the different parties. Based on these simulations a final model is drawn up, which is supported by all parties involved.

UDI TOOLS: Access to European Network: For many small and medium-sized companies going abroad is a huge step, because of the many unknown factors: cultural, scientific or technological obstacles can easily cross a cross-border strategy. SME's don't always know how to test, adapt or introduce their products and services outside their trusted home market. Cluster organisations can assist companies to go abroad to discover new markets.

Through the European network of Living Labs, iLab.o can facilitate SME's by opening the gates to a European or even worldwide market through cross-border pilot projects. As the cluster organisation is member of the European Network of living labs with almost 270 living labs (www.openlivinglabs.eu) all over Europe and beyond, the local cluster is also perfectly positioned to offer advice and support for such a cross-border project.

The European Network of Living Labs (ENoLL) is the international federation of benchmarked Living Labs in Europe and worldwide. Founded in November 2006 under the auspices of the Finnish European Presidency, the network has grown in 'waves' up to this day. To

24 this date, 5 Waves have been launched; resulting in 274 accepted Living Labs. Among the services ENoLL offers to their members a partner matching service, communication, project development service, brokerage service, ...are organised. Cluster organisations looking to work with users outside their regions should connect to this network to have access to European wide user-groups. (<http://www.openlivinglabs.eu/>)

UDI METHODOLOGY TRANSFERABILITY: Clusters in all sectors/businesses can implement the methodology to offer, as a service to member companies, the contact with user groups. For sectors/businesses where innovation requires a lot of pilot equipment or specific laboratory facilities the access to these facilities and even the operations using these test facilities can be added a one of the proposed tools.

CONSIDER THAT:

- ◆ Clusters can offer services on User Driven Innovation to the companies (contact to user-groups, dataprocessing,..)
- ◆ Contact with users groups requires the right legal context regarding local privacy rules
- ◆ European Network of Living Labs is a gateway to user-groups all over Europe

- Advanced Users as 'imaginative' users of new products

CONTEXT: Peak Innovation is involving advanced Users of outdoor sports equipment (skiing) in the development of new sports technology (injury risk minimisation, improvements in sports gear and athlete movement,...). <http://www.peakinnovation.se/en/>

The aim of Peak Innovation is to create growth in new and existing businesses, to produce more research results of commercial interest, to attract investment and to strengthen the region's brand and competitiveness. Peak Innovation is a partnership between business, academia, the public sector and the sports movement. The stakeholders are business (through Peak Business & Sports AB) Jämtland-Härjedalens Idrottsförbund, Mid Sweden University, the municipalities of Östersund, Krokom and Åre, and Jämtland County Council. Peak Innovation is run by a jointly-owned company – Mid Sweden Science Park AB.

UDI METHODOLOGY: advanced Users, athletes in this case, are closely observed and involved in the innovation process.

The Swedish Winter Sports Research Centre, SWRC, is one of the world's leading laboratories for winter sports research and development. The centre focuses on innovation, User-Driven research and technology. In this process, the daily training environment becomes a 'working laboratory' in which ideas for improvement can be scientifically tested and new training methods can be validated against performance measures, using 'improved performance' as the cen-

tral motivator for research and development.

The products used by the athletes are sometimes prototypes and can further be improved for the athletes top performance and form a solid basis for other developments in the complete Swedish outdoor and sports sector.

CONSIDER THAT:

- ◆ Some user-groups are largely interested to participate in the innovation process (students, athletes, special-need groups, ...)
- ◆ Clusters can link the special user groups to the companies

B2G-Public Procurement of Innovation

- Encourage cluster creation in Public Procurement of Innovation

CONTEXT: Procurement of innovation in Flanders (Innovatief Aanbesteden www.procurementofinnovation.eu or www.innovatiefaanbesteden.be)

The Flemish government is more and more actively seeking innovative solutions to tackle societal challenges and to improve its public services. Procurement of Innovation shall help the government achieve that. In some cases businesses and research institutes already possess the knowledge and the expertise that the government requires to deal with these challenges, in other cases the

knowledge and expertise needs to be developed. Procurement of Innovation brings the government and businesses closer together and creates a unique framework for working together on innovation:

- Cluster creation: Businesses, research institutes and the government unite in an Innovation Platform in which they jointly explore solutions for specific challenges facing the government.
- Financial support: Businesses receive support to develop their innovative ideas further into workable, customized solutions for the government.

Procurement of Innovation operates in 3 phases. This allows close consultation between the government and businesses during the critical phases.

- **Phase 1: Cluster creation: Innovation Platform set up and state of the art**

For every selected project an Innovation Platform will be set up wherein businesses, research institutes and the government will jointly seek potential solutions.

A state of the art, covering the three listed topics, is drawn up first:

- What solutions are currently available?
- Can they be implemented immediately (feasibility check)?
- Is there a need for a research and development phase?

- **Phase 2: Pre-commercial procurement phase (Research and Development phase)**

A number of promising ideas shall require further research in order to achieve a workable, customized solution for the government. The goal is to create a minimum of 2 prototypes in order to reduce the risk involved.

- **Phase 3: Commercial or procurement phase**

After the pre-commercial procurement phase, the government shall launch a conventional tendering procedure for the execution and implementation of the project.

The cluster creation in phase 1 **is of more specific interest in the context of User Driven Innovation and will be further elaborated.** Also in the ProgrREAST project (Innovative PROcurement techniques to support the GRowth of competitiveness for public services in EASTern Europe - FP7-ICT-2009-4 - www.progreast.eu) a reference is made to contact with companies and representative of companies (= clusters) in the needs assessment phase of pre-commercial procurement.

UDI METHODOLOGY: Government takes the initiative to create a cluster. The core of the model is the innovation platform (=cluster) created according a master plan developed from the various policy areas. Due to the presence of different stakeholders (Flemish Government, businesses, academic institutions, professional organizations / business organizations) the cluster can combine all information needed to define different solutions and different manners to

develop these solutions.

UDI TOOLS : public procurement procedure to appoint cluster (Innovation Platform) manager. The challenges/problems of interest to launch an innovative public procurement project are defined by the government. There is initially no or little 'natural' interest from businesses to develop (innovative) solutions. On the other hand most challenges/problems require a multidisciplinary approach and therefore companies and knowledge providers need to work together to develop these solutions. To overcome these shortcomings (lack of interest, no ongoing collaborations) the government launches a call for a cluster (Innovation Platform) manager. As a result large consultant companies provide the cluster managers needed to bring together knowledge, insights and proposed solutions from thinkers and doers. These cluster managers are the key persons in the phase 1 of the Innovative Public Procurement project.

UDI TOOLS : government support of cluster (Innovation Platform) to carry out specific tasks to get Innovative Public Procurement project started. In the first phase of the Innovative Public Procurement project the cluster is highly supported by the government. The cluster manager is paid by the government and meeting facilities and support is provided.

The cluster focuses on one specific socio-economic need or one public service to be improved. The following tasks are carried out with support of the government to the cluster manager:

- Organize interaction between all stakeholder : Contracting Government (demand), industry (supply side), Innovation agency (innovation and industrial policy side), universities (research and assessment capability) and supporting governmental departments (assessment capacity demand side)
- Provide foresights to socio-economic needs or future public services
- Describe state of the art and make an inventory of appropriate core competencies needed to develop solutions
- Develop a detailed master plan from demand to supply side (from problem to possible solution)
- Develop an action plan to generate solutions.

Following the findings of the phase 1, the government will decide whether or not a pre-commercial phase (phase 2) will follow. At that stage the government tries to gain knowledge to assess the extent to which a solution is conceivable for a predetermined problem. UDI methodology and tools for Phase 2 and 3 will not be described here as they do not differ from UDI in other context.

UDI METHODOLOGY TRANSFERABILITY: In all areas where the regional/national government wants to support the development of innovative solutions these UDI-tools can be considered. Attention needs to be paid to the aspect of market failure – in order to be allowed (according EU rules) to give financial support to the chosen initiatives.

CONSIDER THAT:

- ◆ Clusters can act as independent parties , especially of large importance in pre-commercial procurement

3. Conclusions and recommendations

As outcome from the taskforce workshop (September 2010), three action areas were identified being most important to take a step forward in involving clusters in User Driven Innovation. These action areas are: awareness raising, mapping assets, procurement as driver for innovation. Conclusions and policy recommendations are presented along these action areas.

3.1. Awareness raising

Awareness rising among policy makers, policy practitioners, cluster organisations as well as their member companies is needed to increase cluster involvement in User Driven Innovation. Several activities can be undertaken:

- Clusters can use show-cases to illustrate what User Driven Innovation can mean in a variety of industries
- Clusters can organise peer-to-peer meetings where cluster organisations and member companies can meet and learn from each other on all topics directly (e.g methods and tools) or indirectly (convince management, convince member companies,...) related to User Driven Innovation.
- Policy makers/practitioners should use ECA (European Cluster Alliance) for communication
- Policy can provide support (financial) to awareness raising activities of clusters
- Policy makers and practitioners should spread clear messages on the importance of User Driven Innovation at occasions gathering a broad audience on the topic of innovation (conference, local innovation events, ...)

3.2. Mapping of existing assets to be able to valorize these assets 29

Several existing platforms made efforts to map existing UDI assets. Mapping of available infrastructure in clusters in general was done by European Cluster Collaboration Platform see <http://www.cluster-collaboration.eu/>) or more specific UDI related mappings as within the European Network of Living Labs (<http://www.openlivinglabs.eu/>).

- Clusters need to be encouraged to register in these platforms and to promote their own infrastructure or to search for infrastructure for their member companies with UDI projects.
- Policy practitioners can stimulate memberships to these existing platforms (e.g. membership required to get local financial support)
- A methodology to map open innovation environments was developed and tested in Sweden. This method can be used by other regions/countries. Dissemination of regional/national mappings should be done in collaboration with existing platforms (ECO,..)

30 3.3. Procurement as driver for innovation (for public Users)

Innovative Public Procurement is proposed to find innovative solutions to societal problems. In these new areas, government needs to assist in bringing all stakeholders together (cluster creation) in order to:

- Formulate a detailed description of the societal problem and possible innovative solutions
- Create a common roadmap how to develop the required innovative solutions
- Support collaboration between companies and research institutes to work out technological aspects
- Create a momentum in the project that generates commitment from stakeholders to spent time and efforts in the project

References

FORA (2009), New Nature of Innovation,
Chesbrough (2003), Open Innovation

Linkology

TACTICS MEMBERS AND RELATED LINKS

Austria

TMG, Upper Austria

http://www.tmg.at/index_eng.php

Belgium

IWT, Flanders, Belgium

<http://www.iwt.be/english/welcome>

France

Oseo, France

<http://www.oseo.fr/international>

Italy

Veneto Innovazione

<http://www.venetoinnovazione.it/?q=eng>

Poland

Polish Agency for Enterprise Development (PARP)

<http://en.parp.gov.pl/>

Sweden

VINNOVA, Sweden

<http://www.vinnova.se/en/>

UK

Manchester Metropolitan University

<http://www2.mmu.ac.uk/>

<http://www.mmucoe.co.uk/>

TACTICS and the TACTICS Reflection Group

Task Force on Fostering International Cluster Cooperation

<http://www.ECA-TACTICS.eu>

European Cluster Collaboration Platform

<http://www.clustercollaboration.eu/>

UDI LINKS

Overview of the various roles/tasks that cluster organizations can take on to facilitate UDI:

<http://www.proinno-europe.eu/eca/page/uf3user-driven-excellent-clusters>

Operational tools and methodologies to support UDI:

<http://www.innotour.com/innovation-tools/user-driven-methods/>

<http://www.lltoolbox.eu/methods-and-tools/finding-opportunities>

Courses on User Driven Innovation:

<http://www.cluster-excellence.eu/training.html>

<http://www.clustercollaboration.eu/library>

<http://www.cft.regx.dk/>

People Centred Innovation.by HUMIN

<http://www.humin.be> – partially in English.

ILab O - IBBT

<http://www.ibbt.be>

European Network of living labs with almost 270 living labs

<http://www.openlivinglabs.eu>

Case: Peak Innovation involving advanced Users of out-door sports equipment

<http://www.peakinnovation.se/en/>

Case: Procurement of innovation in Flanders (Innovatief Aanbesteden)

<http://www.procurementofinnovation.eu>

or <http://www.innovatiefaanbesteden.be>

34 ProgrREAST project (Innovative PROcurement techniques to support the GRowth of competitiveness for public services in EASTern Europe)
<http://www.progreast.eu>

Glossary of key terms

Cluster

“A cluster is a geographical proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and externalities”. (Michael E. Porter, On Competition, Harvard Business Press, 1998, p.215)

Cluster members or constituents

Cluster members or better “constituents” (since to be part you do not need to sign a membership) *“include end product or service companies; suppliers of specialized inputs, components, machinery, and services; financial institutions; and firms in related industries. Clusters also often include firms in downstream industries (that is, channels or customers); producers of complementary products; specialized infrastructure providers; government and other institutions providing specialized training, education, information, research and technical support (such as universities, think tanks, vocational training providers); and standard setting agencies. Government agencies that significantly influence a cluster can be considered part of it. Finally, many clusters include trade associations and other collective private sector bodies that support cluster members.”* (Michael E. Porter, On Competition,

Harvard Business Press, 1998, p.215-216)

Cluster Initiative

“Cluster initiative: an organised effort to increase the growth and competitiveness of a cluster within a region, involving cluster firms, government and/or the research community”. (Örjan Sölvell, Göran Lindqvist and Christian Ketels, The Cluster Initiative Greenbook, Vinnova/TCI, 2003, p.

Cluster Initiative Participant

“Businesses and other innovation stakeholders involved in cluster initiatives” (extracted from EC Communication: Towards world-class clusters in the European Union: Implementing the broad-based innovation strategy- SEC(2008) 2637, 17 October 2008, p.7)

Cluster Organisation

*“Cluster initiatives are increasingly managed by specialised institutions, known as **cluster organisations**, which take various forms, ranging from non-profit associations, through public agencies to companies.”* (EC Communication: Towards world-class clusters in the European Union: Implementing the broad-based innovation strategy- SEC(2008) 2637} 17 October 2008, p.8). A Cluster Organisation does not necessarily have

members, but it provides services to the cluster initiative participants.

Note: Cluster organisations have different names in different countries, eg. compétitivité pôles, centres of expertise, innovation networks and competence networks etc.

Cluster Association and Cluster Association Members

A *non-profit* association legally formed by members *“businesses and other innovation stakeholders involved in cluster initiatives”* (concluded from definitions above).

Cluster Manager

The Cluster Manager is the head of a Cluster Organisation. The term can also refer to all senior members of staff in a Cluster Organisation.

Cluster Members

Cluster Members are the Businesses, universities, policy makers, other public sector organisations and other private sector organisations that actively participate in a Cluster Initiative. They may pay a membership fee to the Cluster Organisation.

Actor

An actor is a participant, either an organisation or an individual.

Innovation

Innovation is what drives productivity/ competitiveness and prosperity. “It is the creation, development and implementation of new products, processes or services, with the aim of improving efficiency, effectiveness or competitive advantage. Innovation may apply to products, services, manufacturing processes, managerial processes or the design of an organisation. It is most often viewed at a product or process level, where product innovation satisfies a customer’s needs and process innovation improves efficiency and effectiveness. Innovation is linked to creativity and the creation of new ideas, and involves taking those new ideas and turning them into reality through invention, research and new product development.” (Source: Economist.com). One output of innovation is the creation of new firms through spinouts or start-ups. Innovation can also change the structure of an industry.

User Driven Innovation (UDI)

User Driven Innovation (UDI) makes use of information on customers, user communities and

customer companies, and engages users as active participants in innovation activities. The term “users” encompasses consumers, other businesses, and the public sector. The aim of User Driven Innovation processes is to develop new concepts, products and services that address user needs (acknowledged and unacknowledged) and values. Thus, the innovation process is based on an understanding of user’s needs and experiences (rather than being based on a particular research discovery, idea or technology). User Driven Innovation is a demand-led – rather than a supply-led – process.

Living Lab

A living lab is a research concept. A living lab is a user-centred, open-innovation ecosystem, often operating in a territorial context (e.g. city, agglomeration, region), integrating concurrent research and innovation processes within a public-private-people partnership.

The concept is based on a systematic user co-creation approach integrating research and innovation processes. These are integrated through the co-creation, exploration, experimentation and evaluation of innovative ideas, scenarios, concepts and related technological artefacts in real life use cases. Such use cases involve user

communities, not only as observed subjects but also as a source of creation. This approach allows all involved stakeholders to concurrently consider both the global performance of a product or service and its potential adoption by users. This consideration may be made at the earlier stage of research and development and through all elements of the product life-cycle, from design up to recycling. (source: Wikipedia)

Provotypes

Provotypes should not be confused with prototypes. Provotypes will not be turned into a specific product or service, but are rather designed to provoke a reaction from users and thereby provide insights about users.

Cultural probes

Cultural probes is a technique used to inspire ideas in a design process. It serves as a means of gathering inspirational data about peoples, lives, values and thoughts. The Probes are small packages that can include any sort of artifact (like a map, postcard, camera or diary) along with evocative tasks, which are given to participants to allow them to record specific events, feelings or interactions. The aim is to elicit inspirational responses from people, in order to understand

their culture, thoughts and values better, and thus stimulate designers imaginations.

Focus group

A focus group is a form of qualitative research in which a group of people are asked about their perceptions, opinions, beliefs, and attitudes towards a product, service, concept, advertisement, idea, or packaging. Questions are asked in an interactive group setting where participants are free to talk with other group members.

Conjoint Analysis

Conjoint Analysis, also called multi-attribute compositional models or stated preference analysis, is a market research technique in which consumers make trade offs between two or more features and benefits of a product on a scale ranging from 'Most Preferred' to 'Least Preferred.' coupled with techniques such as simulation analysis, conjoint analysis helps in evaluation of different pricing points.

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TACTICS RESULTS

TACTICS gives a fresh outlook on trends in cluster policy and provides a toolbox to policy makers and practitioners on how to better use clusters for economic development, through a set of documents:

- **Key messages and practical recommendations from the TACTICS project** highlights three key messages for policy makers with recommendations on concrete actions and implementation. The document is based on cluster trends in Europe and conclusions from TACTICS' six task forces.
- **Cluster internationalisation**
The handbook provides a practical guide, illustrated with tools and case studies, for policy makers and cluster managers to address the "Why?" for internationalisation and to progress through the ten steps of the Internationalisation Journey.
- **Cluster marketing and branding**
The handbook examines different cases of cluster branding strategies with a view to draw useful recommendations for policy makers, bringing about concrete suggestions for the improvement of cluster policies.
- **Impact evaluation of cluster-based policies**
The guide suggests concrete steps for setting up an evaluation process of cluster-based policies. The document, targeting policy makers and other cluster stakeholders, is a practical guide supported and explained by several cases.

- **Fostering User-Driven Innovation through clusters**

The guide provides practical advices for cluster organizations to support their member companies with the implementation of User-Driven Innovation and recommendations to policy makers to develop and implement appropriate policies.

- **Channelling RDI funding through clusters**

The paper proposes a focus on the capacity of clusters/cluster organisations to attract and manage RDI funding, including new activities, actors and the role within smart specialisation strategies. It also provides TACTICS' contribution to the State Aid rules consultation for clusters.

- **Using clusters to address emerging industries and services**

The paper tackles the issue of using clusters to catalyse emergence of new industries and renewal/upgrade of well-established ones. The document summarizes case examples and discussions held with participation of TACTICS partners and external experts.

- **Where the cluster winds are blowing in Europe**

The paper includes contributions from about 30 European regional and national policy making organisations, and highlights the trends in the use of clusters as a tool for innovation and economic growth, today and in the future.

You can download TACTICS publications at: www.ECA-TACTICS.eu

