FLANDERS DC

Kennis Studie

RESEARCH REPORT

MANAGING CROSS-INDUSTRY INNOVATION CLUSTERS

Bart Devoldere, Marion Debruyne, Hanne Blockx, Mathias Boënne, Dimitry Lameire

DECEMBER 2015

KNOWLEDGE PARTNER

VLERICK BUSINESS SCHOOL

SAMENVATTING

Onze Vlaamse economie wordt heel snel een inspiratiegedreven economie. In dit type economie is inspiratie vitaal om te overleven. Inspiratie verwijst naar het gebruik van kennis en ideeën van andere bedrijven, regio's, of industrieën, terwijl je dat vertaalt en toepast in de eigen context. Het gebruik van inspiratie leidt tot zogenaamde spill-overs of kruisbestuivingen.

Hoewel Vlaanderen ideaal gelegen is om ten volle van het potentieel van de inspiratiegedreven economie te kunnen genieten, moeten we onze kunde om te innoveren op basis van kruisbestuivingen drastisch verbeteren. In deze studie gaan we dieper in op kruisbestuivingen overheen industrieën; een te weinig bestudeerde en ondergewaardeerde bron van innovatie onder managers en ondernemers. Kruisbestuivingen overheen industrieën ontstaan vanuit organisaties actief in een industrie verschillend van de eigen industrie. Kruisbestuivingen overheen industrieën staan centraal in cross-industrie innovatie.

De Vlaamse Regering erkent het potentieel van cross-industrie innovatie met haar recent gelanceerde, vernieuwde clusterbeleid. Cross-industrie innovatie is een proces waarin organisatie overheen industrieën samenwerken en elkaar inspireren tot het vinden van een gezamenlijke uitdaging en tot het ontwikkelen van een commercialiseerbare innovatie. Elke iteratie van het cross-industrie innovatieproces bestaat uit de volgende vier fases:

1. *Uitdagen*. Formuleer een uitdaging om verschillende partners overheen industrieën aan te trekken en te behouden.

2. *Uitnodigen*. Leg contact met de juiste cross-industrie partners om de uitdaging aan te gaan.

3. *Uitvinden*. Wissel overheen partners kennis en ideeën uit om te komen tot creatieve oplossingen voor de uitdaging.

4. *Uitwerken*. Werk de creatieve ideeën uit tot concrete output die de uitdaging beantwoordt met cross-industrie partners op basis van kruisbestuiving.

Echter, cross-industrie innovatie clusters moeten actief gemanaged worden aangezien de innovatieteams heel divers zijn en verspreid overheen verschillende industrieën. Ons onderzoek hieromtrent is gebaseerd op uitgebreide interviews met experten en getuigen van cross-industrie innovatie, en een diepgaande duik in de literatuur over innovatie cluster management. In ons werk geven we aan dat er enkele heel belangrijke dimensies zijn van het cross-industrie innovatieproces, duidelijke richtlijnen voor managers bestaan, en ondersteunende tools voorhanden zijn. Belangrijke aandachtspunten doorheen het cross-industrie innovatieproces zijn of nog steeds de juiste mensen, focus, en energie aanwezig zijn. Met andere woorden,

- 'Hebben we nog de juiste partners aan boord?'

- ‘Hebben we nog steeds de goede focus?’

- ‘Hebben we nog voldoende energie?’

Dit document leest als een uitgebreide samenvatting over het hoe van cross-industrie innovatie cluster management. In hoofdstuk 1 geven we aan waarom cross-industrie innovatie en gepast management daarvan belangrijk is voor de welvarendheid van Vlaanderen. In hoofdstuk 2 tonen we een voorbeeld van een goede samenwerking overheen industrieën geïnitieerd door Sioen Industries. In hoofdstuk 3 beschrijven we het cross-industrie innovatieproces en hoe managers van dergelijke cross-industrie innovatiecluster de voorwaarden voor een gezond (en succesvol) proces kunnen kneden. In hoofdstuk 4 en 5 presenteren we draaiboeken die uitleggen hoe managers en deelnemers aan een cross-industrie samenwerkingsproject elkaar inspireren en samen innoveren. Elke fase in het proces is geïllustreerd aan de hand van het praktijkvoorbeeld van het PRoF consortium (geïnitieerd door Jan Van Hecke van het bedrijf Boone International), de voornaamste stappen die moeten worden genomen, en mogelijke tools die kunnen worden gebruikt. Meer details over de inspiratie-economie en het cross-industrie innovatieproces zijn beschikbaar in eerdere publicaties (Debruyne et al. 2015 en Devoldere et al. 2014).

Veel plezier bij het experimenteren met cross-industrie innovatie!

De auteurs

EXECUTIVE SUMMARY

Our economy in Flanders is becoming an inspiration-driven economy fast. In this type of economy inspiration is vital for survival. Inspiration refers to using knowledge and ideas from other firms, regions, or industries while translating and applying those to the own context. The use of inspiration creates so-called spill-overs.

Although Flanders is ideally located for tapping into the potential of the inspiration-driven economy, we need to drastically increase our ability to innovate using spill-overs. In this study we focus on cross-industry spill-overs; an under-explored and under-valued source of innovation among managers and entrepreneurs. Cross-industry spill-overs originate from organizations active in industries that are different from the focal organization. Cross-industry spill-overs are central to cross-industry innovation.

The Flemish Government recognizes the potential for cross-industry innovation with its set-up of cross-industry innovation clusters. Cross-industry innovation is a process in which organisations across industries collaborate and inspire each other to find a common challenge and to develop an innovation that can be commercialised. Each iteration of the cross-industry innovation process consists of four sequential phases:

1. Frame a *challenge* to attract and retain different partners across industries.

2. *Connect* with the right cross-industry partners to tackle the challenge.

3. *Cross-pollinate* across partners by exchanging and creating knowledge and ideas for solving the challenge.

4. *Create* tangible output that answers the challenge with cross-industry partners based on the cross-pollination.

However, cross-industry innovation clusters need to be actively managed as the innovating teams are very diverse, being spread across various industries. Our research based on extensive interviewing of key experts and witnesses of cross-industry innovation and thoroughly reviewing the literature on innovation cluster management best-practices reveals several key dimensions of a cross-industry innovation process, managerial guidelines, and supporting tools. Important attention points throughout the cross-industry innovation process are whether we still have the right people, focus, and energy. In other words,

- ‘Are the right partners still on board?’

- ‘Do we still have the right focus?’

- ‘Is there still enough energy?’

This document reads as an extensive executive summary on how to manage cross-industry innovation clusters. In chapter 1 we indicate why cross-industry innovation and appropriate management thereof is vital for the prosperity of Flanders. In chapter 2 we show an example of a well-managed cross-industry collaboration initiated by Sioen Industries. In chapter 3 we describe the cross-industry innovation process and how managers of a cross-industry innovation cluster can manage the conditions for a healthy (and successful) process. In chapters 4 and 5 we present playbooks on how managers and participants of a cross-industry collaboration project can inspire each other and innovate together. Each phase in the process is illustrated with the real-life example of the PRoF consortium (initiated by Jan Van Hecke from Boone International), the key steps to take, and possible tools that can be used. More details on the inspiration economy and the cross-industry innovation process are available in earlier publications (Debruyne et al. 2015 and Devoldere et al. 2014).

Have fun experimenting with cross-industry innovation!

The authors

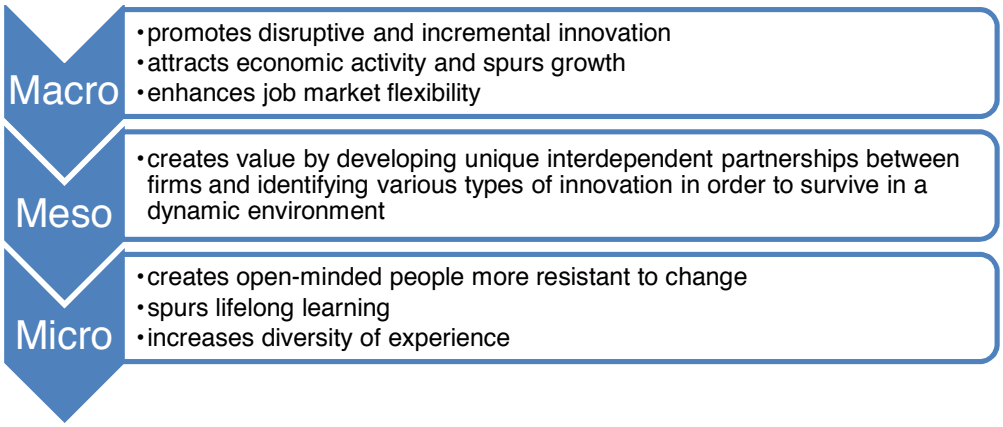
1. WHY MANAGING CROSS-INDUSTRY COLLABORATION?

In a previous study we observe that our economy is more and more moving towards an *inspiration-driven economy* (Devoldere et al., 2014). In this type of economy, based on knowledge and ideas, inspiration is key to survive. Inspiration refers to using knowledge and ideas from other firms, regions, and/or industries, while translating and applying those to the own context. The use of inspiration creates spill-overs (also known as cross-overs). We claim that inspiration and spill-overs are becoming an indispensable part of the value (and prosperity) creating character of a region like Flanders, its firms, and its people. Spill-overs are already responsible for more than 50% of our total labor productivity growth. Nevertheless, this is still under European average!

Flanders is ideally located for tapping into the potential of the inspiration-driven economy. Manyika et al. (2014) estimate that global spill-over streams running through our region are estimated to be worth 937 billion USD (being 194% of our GDP). This is enormous. However, to tap into this inspiration and spill-over potential *we need to drastically increase our ability to innovate* and our intentions for ambitious, growth-oriented entrepreneurship. Innovation is a process in which we search, select, and successfully exploit valuable knowledge and ideas. In order to innovate, we need a constant supply of potentially valuable ideas and thus inspiration and spill-overs.

There are several sources of spill-overs such as other countries, firms, employees, users, customers, etc. For this study we focus on cross-industry spill-overs; to managers and entrepreneurs often the least obvious source to spur innovation (Devoldere et al., 2014). Cross-industry spill-overs originate from organizations active in industries that are different from the focal organization. Cross-industry spill-overs are central to cross-industry innovation. The potential of *cross-industry innovation is largely untapped*. In a survey of 248 companies conducted by Cruz-González et al. (2015), external industries are only regarded as 14th out of 16 possible knowledge sources for inspiration. Nevertheless, there are several levels at which cross-industry innovation is relevant and valuable as shown in Figure 1.

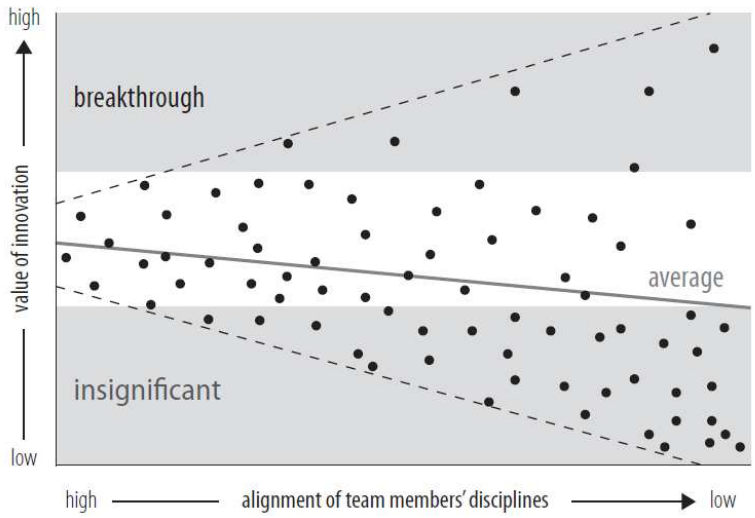
Figure 1: multi-level impact of cross-industry innovation



The Flemish Government recognizes the potential for cross-industry innovation and installs in 2015 a long-term innovation agenda highlighting the importance of cross-industry innovation clusters. *Cross-industry innovation* is a process in which organisations across industries collaborate and inspire each other to find a common challenge and to develop an innovation that can be commercialised. Cross-industry collaborations create value by identifying various types of innovations such as business model innovations (Enkel & Gassman, 2004; Frankenberger et al., 2014), product innovations (Silverstein, DeCarlo & Slocum, 2007; Brunswicker & Hutschek, 2010), or process and service innovations (Zhang, Chai and Tang, 2005).

However, *cross-industry innovation clusters need to be actively managed* as the innovating teams are very diverse, being spread across various industries. Previous research shows a paradox with respect to diversity in innovation teams. As the diversity of team participants increases, the overall quality of innovations drops, resulting usually in more failures. However, even though the overall quality of innovations and the probability of innovation success falls when diversity increases, the innovations that *do* succeed are breakthroughs of exceptional value (Fleming, 2004). Diversity thus stimulates and facilitates the creation of highly valuable and ground-breaking innovations. Figure 2 shows the relation between innovation team diversity and innovation performance.

Figure 2: Diversity and Innovation Performance (Fleming, 2004)



Cross-industry collaborations embody a high degree of diversity, which serves as a recognizable source of creativity. Moreover, cross-industry innovation collaborations can become a sustainable competitive advantage for participating firms as it often leads to the creation and deployment of difficult to replicate knowledge assets (Teece, 1998), not to mention the strong ties that can arise between partners. Unfortunately, it also puts pressure on the innovation process as the participants (usually) have limited cohesiveness or experience working together and have to install new communication and collaboration protocols (Basset-Jones, 2005). This can result in discord, distrust, poor quality and lack of focus.

The higher risk of failure related to cross-industry innovation cannot be fully eradicated but it can be controlled and even minimized when the entire cross-industry innovation process is managed well (Loch, et al., 2006). The question how firms can do this is hardly touched upon in prior literature (Brunswicker & Hutschek, 2010). Our research based on extensive interviewing of key experts and witnesses of cross-industry innovation and thoroughly reviewing the literature on

innovation cluster management best-practices reveals several key dimensions of a cross-industry innovation process, managerial guidelines, and supporting tools.

In chapter 2 we give a sneak preview of what well-managed cross-industry collaboration can accomplish. We briefly describe the case of the AT~SEA project, a cross-industry innovation projected initiated by Sioen Industries.

2. CASE: THE AT~SEA PROJECT

2.1. PROJECT TRIGGER

The AT~SEA project is an example of cross-industry innovation initiated by Sioen industries. It focuses on the development of advanced, 2D seaweed cultivation substrates in order to demonstrate the technical and economic feasibility of seaweed cultivation in Europe. The project finds its origin in 2010 during an internal R&D meeting at Sioen Industries discussing the grand challenges for global society in the next 5 – 20 years (such as demographic evolution, safety, climate change, energy and ecological awareness) and how Sioen could tackle those. Given Sioen Industries' core expertise in technical textiles, they decided to address some of these grand challenges by setting up a number of development projects, including a project regarding the cultivation of marine biomass on textiles.

2.2. CREATING A COMMON VISION THROUGH INSPIRATION

To be able to successfully develop this project, Sioen Industries understood that it did not have all the necessary knowledge, technology and competences in-house, and therefore decided to set up a cross-industry innovation project called AT~SEA. The idea of cultivating marine biomass on textiles attracted a number of potential partners from other industries such as biology, chemistry and marine engineering who were interested in tackling these challenges by innovating together. Sioen Industries connected with partners that they carefully selected based on potential partners' competences and interest in the field of seaweed cultivation. This search for partners was done in a pragmatic way; by searching online and throughout their professional network.

During a first brainstorm meeting with the potential partners, ideas and insights where shared on the technologies and capabilities that each partner could bring in, and each partner's envisioned output of the cooperation. This brainstorm resulted in a shared vision to develop methods and technologies for open sea biomass cultivation of textile-based seaweed.

Sioen Industries and its partners decided to further develop their idea for this project by writing a full-fledged proposal in 2011 for a FP7 grant (Seventh Framework Programme for Research and Development, commissioned by the European Commission) which was successful. By co-writing the detailed proposal, a clear mission and vision of the AT~Sea Project was created together with all potential partners. The mission of the AT~SEA was to develop innovative offshore textile products. Its vision became the stimulation of bio-energy production from seaweed by enabling open sea large scale cultivation and harvesting.

2.3. FINDING BUSINESS OPPORTUNITIES THROUGH INNOVATING TOGETHER

In April 2012, all partners came together for the kick-off of the project development to share their ideas, technologies, insights, and experience on the mission of the project, namely the development of biomass seaweed textile-based cultivation. At this kick-off meeting, the common mission and vision developed in the proposal was presented and the work plan was discussed in detail. At this kick-off meeting, all partners signed a consortium agreement. For the consortium agreement, a standard template of the EU Commission was used as the starting point on which partners suggested additional rules for effective communication and secrecy. The consortium consisted of a total of 11 organisations, including 6 small-sized companies and a number of research institutions. Partners joined the consortium for various reasons such as conducting novel research or developing new products or technologies. Partners came from very diverse industries including biology, textiles and naval/marine engineering. By having a diverse set of industries, the partners included were not competitors from Sioen Industries nor from each other.

At the start of the project, each industry partner had its own typology and understanding on how to address the challenge they faced. A common language was created during the first year of the project by meeting each other often face-to-face. Each partner shared ideas and solutions from their own competence, state-of-the-art and field of expertise. Sioen Industries advises to not only take sufficient time to select partners based on their competences and expertise but also to take more than enough time to learn to innovate with each other. At the frequent meetings, the work packages and activities for the development of the project were planned and discussed.

Once the work packages were defined, the execution of the project could start. For each specific work package, there was a separate responsible work package leader. Partners that were jointly responsible for certain activities or work packages met on a regularly basis. During these meetings partners developed the ideas into technological innovations. The exact number of these meetings depended on the coordinator of the specific work package. Business development managers were added to the innovating teams in order to ensure that next to technology development also sufficient attention was directed toward business development during the project. In addition, master students of a prominent Belgian business school conducted a study in which they provided Sioen Industries with a strategic market research analysis and a set of recommendations for the near future related to this cross-industry innovation project.

The AT~SEA Project has just recently been fully developed, and with great success. Many corporate entrepreneurs from the different industries that participated in the AT~Sea project identified new opportunities that arose during the AT~SEA Project. Based on the interest of these corporate entrepreneurs and the right competences of their organizations, a large part of the consortium has now become a joint spin-off venture called AT~SEA Technologies in which 8 of the original 11 partners of the consortium participate. Sioen Industries is currently a majority shareholder in this joint-venture. Nevertheless, the coordination role is now divided between all partners from the joint venture. Sioen Industries is currently setting up other cross-industry innovation projects with some partners from the AT~SEA Project. At the end of the AT~SEA project for instance, some of the follow-up projects are aimed at using components of the generated seaweed for bio refinery.

3. CROSS-INDUSTRY INNOVATION PROCESS

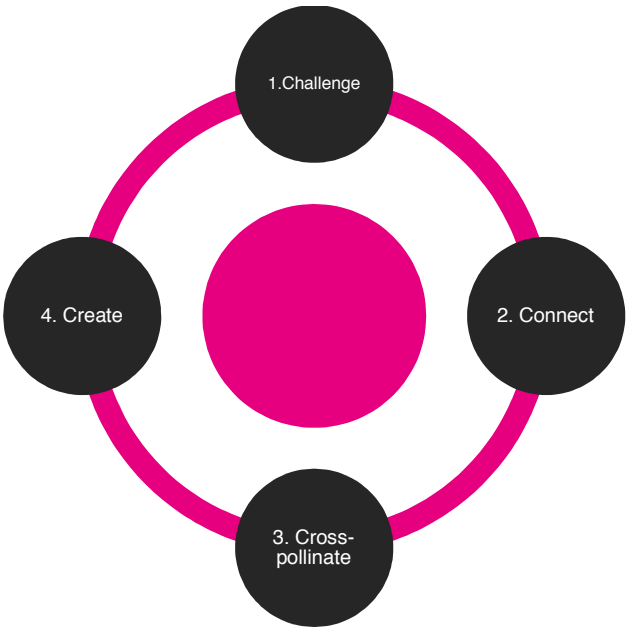
3.1. PROCESS DESCRIPTION

Cross-industry innovation is a process in which organisations across industries collaborate to inspire each other in order to find a common challenge for which they can then develop innovations that can be commercialised. We identify two sequential iterations in the cross-industry innovation process: the inspiration iteration and the innovation iteration. In the *inspiration iteration*, the objective is to create together with cross-industry partners, an environment of trust and to develop a common vision, supported by a mission and short-term goals. In the *innovation iteration*, the output of the inspiration iteration is used to develop a concrete business opportunity plan that identifies a feasible, viable and desirable solution with a supporting business model so that the potential value creation and value capture across industry partners becomes clear.

Each iteration consists of four sequential phases (Figure 3):

1. Frame a *challenge* to attract and retain different partners across industries.
2. *Connect* with the right cross-industry partners to tackle the challenge.
3. *Cross-pollinate* across partners by exchanging and creating knowledge and ideas for solving the challenge.
4. *Create* together with cross-industry partners tangible output that answers the challenge.

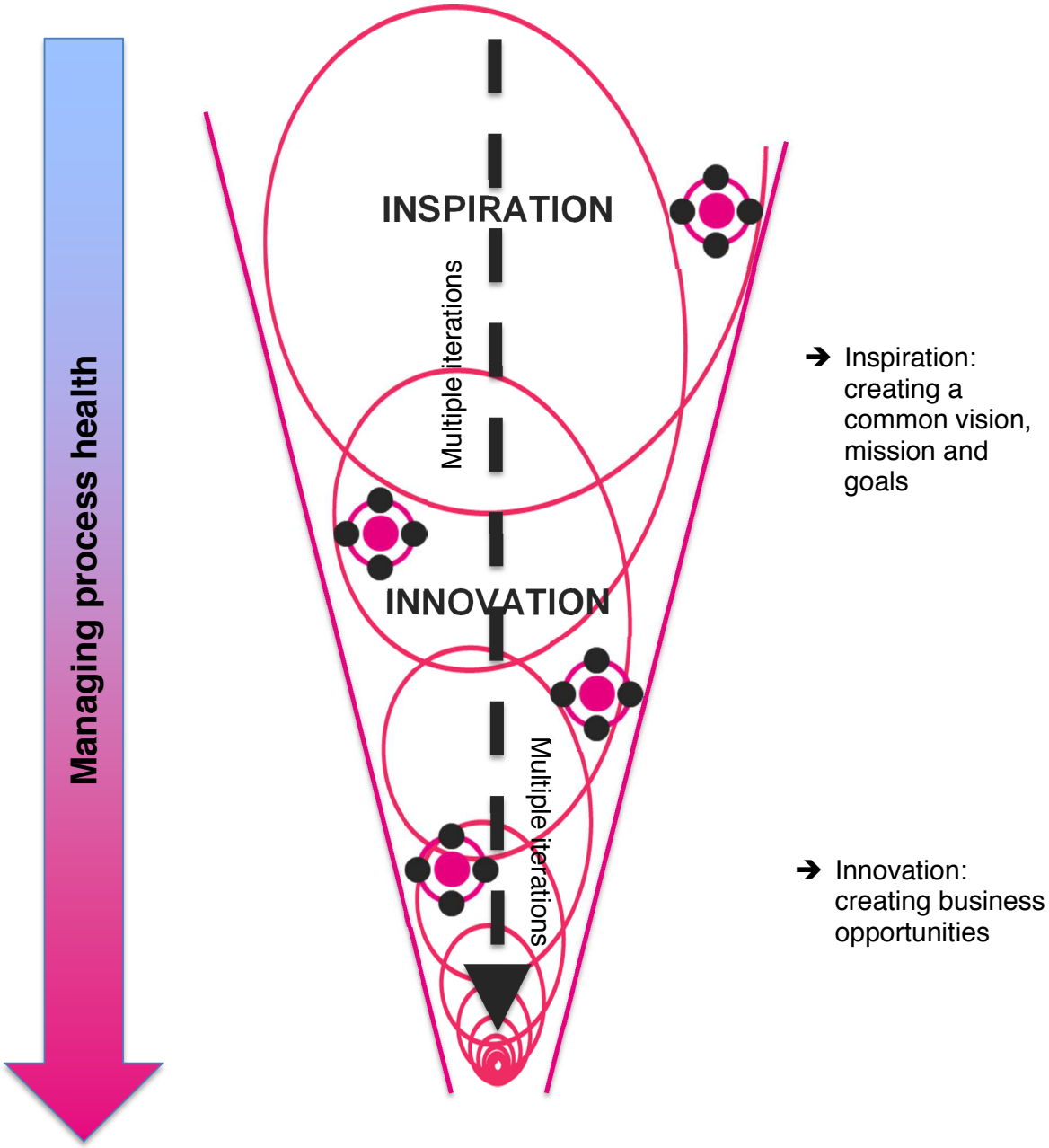
Figure 3: Cross-industry collaboration process iteration



Both the inspiration and innovation iteration consist of these four phases. However, across iterations the specific content, guidelines and tools to be used can differ significantly. In chapters 4 and 5 we describe each phase of the cross-industry innovation process in greater depth for each type of iteration. Each phase in the process is illustrated with the real-life example of the PRoF consortium, the key steps to take, and possible tools that can be used.

The entire cross-industry innovation process is visualized in Figure 4. In the next section we describe how cross-industry cluster managers can make sure their innovation cluster delivers inspiration and innovation while maintaining a healthy process with good partners, sharp focus, and high energy.

Figure 4: Cross-industry innovation process



3.2. MANAGING PROCESS HEALTH

We identify three key factors that demand active management by the responsible coordinator of the cross-industry collaboration in order to have a successful project. The key factors concern the project's partners, focus, and energy. These factors need to be managed throughout the entire process, from the start of the first inspiration iteration till the final innovation iteration. The three following questions need to be constantly assessed (and remedied if needed):

1. **Are the right partners still on board?**
2. **Is there still a clear focus?**
3. **Is there still enough energy to keep going?**

3.2.1. Are the right Partners still on board?

As the primary reasons for setting up cross-industry innovation partnerships is to benefit from each other's know-how and capabilities, it becomes essential that the group of cross-industry partners is managed very carefully throughout the entire cross-industry innovation process. There are two key aspects in managing cross-industry partners: retention and exclusion.

First, it is important and preferred to *retain partners* in the cross-industry project group. Thereto, the presence of trust is all-important. A relationship and network built on trust with clear guidelines can greatly enhance the sharing behaviour in the cross-industry project. A Non-Disclosure Agreement (NDA) is recommended to help creating and sustaining trust between partners, but is not a sufficient factor for trust to arise. Open communication enhances trust between organisations (Vanhaverbeke, 2012) and is also essential for developing strategic alignment between partners from different industries (Enkel & Gassman, 2014). Also, it is recommended to keep involving the same people and to have active communication to keep momentum (Pertuzé et al., 2010).

Second, it is also important to *remove partners* who add nothing, do nothing, refuse to be open, lack commitment or even block the cross-industry process. Of course, this is a sensitive subject; it should thus be handled with care. Therefore, it is advised to look closely for ways to build and maintain trust, sharing mechanisms, and ways to handle group conflict. If a partner breaks the rules, the partnership must be able and willing to discipline that partner according to the rules agreed up front (Vanhaverbeke, 2012).

When monitoring partners, it is important to be particularly alert for free-riders. They will almost surely be a trigger to fragment the group into slackers and drivers – and the drivers will want to continue in a new group (Arikan, 2011).When partners are not willing to implement or execute a concept in line with the overall vision agreed with all partners, and eventually excluded, it might be necessary to bring in new partners to take their place.

3.2.2. Do we still have the right focus?

It is realistic to expect that, apart from the group's central vision, partners have individual agendas. This could cause the partnership to deviate from its course, especially when there is a powerful partner involved with its own agenda. It can result in one or a few powerful partners redirecting the focus of the project too much towards their core business. Also the diversity in industry backgrounds of the various partners can complicate the focus of the project.

In order to maintain the right focus of the overall innovation project, some attention points should be monitored constantly.

1. *Common vision*: The industry-transcending goals across all partners must be developed and agreed upon by all partners; and above all, maintained and kept visible throughout the entire process (Locke & Latham, 2002).

2. *Sharing behaviour*: Participating organisations should be open to share information, ideas, resources and responsibility towards partners (Bryson et al. 2009).

3. *Connectivity*: Partners need to be able to communicate easily and frequently in order to exchange tacit knowledge (Brown & Duguid, 1991; Von Hippel, 1994; Arikan, 2011). Guidelines for communication between partners are therefore advised.

4. *Autonomy*: This is arguably one of the key elements in sustaining a cross-innovation process. Members participating will be more involved if they receive more autonomy which is positively associated with increased intrinsic motivation of participating innovators (Deci and Ryan, 1985). The cross-industry project team must have the freedom to follow its own path, without being plagued by political play between the underlying organisations.

5. *Power balance*: It is important that every partner feels like being at the same level and having the ability to freely share opinions (Janis, 1971, Turner & Pratkanis, 1998, Nijs, 2014). If one partner dominates the entire group, it might result in groupthink, which is counter-productive.

3.2.3. Is there still enough energy to keep going?

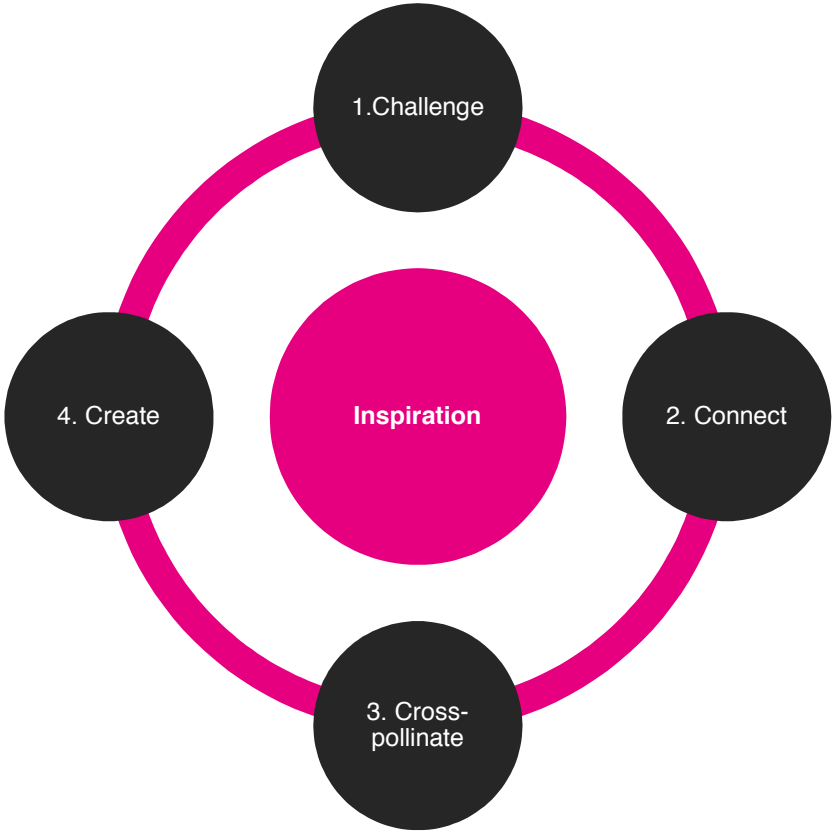
The internal commitment of the partners is evidently a key factor necessary for success when collaborating across industries. To keep the commitment of the industry partners high, frequent interaction moments must occur and incentives must be provided in order to energise the entire group and to keep the momentum going throughout the entire process.

You need to *incentivize to energize*. Your incentive structure needs to stimulate the right triggers. One of the strongest triggers for the group is to work towards quick wins to provide proof of success. The creation of proof of success has been shown to be one of the strongest ways to induce feelings of ownership as well as commitment and sharing behaviour (Han, Chiang & Chang, 2010). An incentive and accountability system is therefore also preferred to be outcome-oriented (Bryson, et al., 2009). It is advised to use more than strictly financial incentives, for which triggers should be chosen that can be measured and can be built on the group cohesion. As forecasting profit from radical innovations at early stages is often difficult to do, it is more

convenient to use non-economic triggers (Piller & West, 2014; Benkler, 2006).

You need to *communicate to energize*. When organizations from different industries collaborate, it is crucial to have a good communication structure in place, so that the innovators within the organizations can connect with each other easily and exchange more tacit knowledge. Connecting is important in both formal and informal settings. Success is generated by an ongoing practice of regular meetings among major sub-groups of key stakeholders and by the use of forums that are outside the focal project (Bryson et al., 2009). So, developing informal communication possibilities will definitely also benefit the energy of the participants and keep the momentum going.

4. CROSS-INDUSTRY INSPIRATION PLAYBOOK



4.1. INSPIRATION CHALLENGE

THINK

[WHAT?] The innovator scans the environment and confronts that with his own experience, knowledge, mind-set, capabilities and resources in order to identify an opportunity. The innovator communicates the opportunity as a broad challenge that inspires and captures the attention of other industries. A challenge often takes the form of a problem statement (Bingham & Spradlin, 2011). This broad and preferably inspiring challenge can consequently be used as a communication tool to persuade other industries to collaborate in order to address the challenge.

[REALITY CHECK] Jan Van Hecke - owner of furniture business Boone International - spotted 3 major, long-lasting trends during a business trip to China: increasing energy prices, people being gadget-savvy, and micro-living. Jan recognized the growing need for efficient furniture fitting into a micro-living environment. Eight years of experience in developing and selling space-saving furniture later, he observed that the specialised care and at-home care industry was strongly emerging. Various organisations in ICT, lighting, furniture and construction considered the growing market to be too difficult to enter at that moment, what resulted in insufficient innovation. That moment Jan defined a grand challenge in terms of the need for space-saving furniture and other room utilities for the senior care industry in Europe (in order to improve the patients' quality of life and to make a profit). This challenge formulation was both abstract and attractive for multiple types of cross-industry partners to be interested. Nevertheless, he also presented concrete examples like retractable beds, that could be used to stir the imagination and motivation of potential partners.

ACT

[HOW?]
1) Develop a thorough understanding of the environment to find a feasible challenge. Use strengths as a solid base to build on (e.g., local technology clusters or a deep cultural aspect); use weaknesses to create a sense of urgency (e.g., declining industry)

2) Find and link important trends to strengths and constraints in order to identify strategic opportunities across industries.

3) Define a cross-industry challenge to convince and motivate potential partners across industries to connect to tackle the challenge.

[TOOLS]
1) Confronting your business model with key trends. The STEEPLE model identifies factors in an organization's environment to identify important opportunities and threats. A business model is an abstract representation of how an organisation creates, captures, and delivers value.

2) 30 what-if questions (http://www.boardofinnovation.com/ny2014/)

3) Trend watching (http://www.crossindustryinnovation.com/101-super-sites/)

4) SUCCES(s)-method. The core concept of the book "Made to Stick" is that your ideas are more likely to be memorable if you communicate them with six core principles in mind (Heath and Heath, 2007).

4.2. INSPIRATION CONNECT

THINK

[WHAT?] In the second step of the inspiration iteration, partners are searched, screened and eventually selected based on concrete selection criteria. Preferred partners across industries typically have both high complementary or necessary assets and an interest or benefit for tackling the challenge formulated in the previous step. It is advised here to also look proactively for small companies, because they often lack time and resources to notice the cross-industry challenge as this is often beyond their usual scope (Vanhaverbeke et al., 2012; Enkel & Heil, 2014). In the selection for innovation partners, it is also advised to engage a partner from the existing network with already some experience in open innovation. Previous experience in cross-collaborations is a strong predictor for future collaboration success (Bryson, et al., 2009; Verdonck, 2013).

[REALITY CHECK] As the homecare market is difficult to enter due to its complex regulatory nature, Jan Van Hecke decided to search for actors that had a solid knowledge and/or experience in the legal field of this market. Jan aimed to use these parties to overcome this barrier. Therefore, Jan chose to only select actors with sufficient decision power in the healthcare industry. Jan then organised a small get-together with the people that could be relevant and interested in addressing the challenge. The group included 2 manufacturers, a representative of Philips, an architect, the manager of UZ Gent Urology department, the president of the union of Flemish nurses, and the president of VDTV. Jan also allowed 5 interested students to join.

ACT

[HOW?]
1) Search enthusiasts across industries that may be complementary and/or necessary for tackling the challenge.

2) Select the right partners for your challenge, based on concrete selection criteria (e.g., valuable input, power, open- mindedness and interest).

[TOOLS]
1) YourOwnlab. This tool can connect you to new people in various industries with the same mind-set about cross-industry innovation. This tool allows you to find interesting partnerships (http://yourownlab.com/).

2) Social media search. Facebook: find new people with the 'snowball effect' (i.e., getting referred to people by people you already know). Twitter: follow people who are working on innovation and post messages on what you are interested in and what you do. Build on your network. LinkedIn Advanced: When you need specific profiles, you can use LinkedIn Advanced to search the right persons and/or organisations.

3) Get to know new people and organisations by working in a co-working space. (http://bardoffice.com/locaties/)

4.3. INSPIRATION CROSS-POLINATE

 **THINK**	 **ACT**
[WHAT?] In the next step, a safe sharing environment is established to start an open dialogue between potential partners. Open dialogue has been shown to be central for tackling complex problems (Nijs, 2014). During the open dialogue, key shared goals to further pursue are defined and chosen together with the potential partners, based on cross-industry commonalities and complementarities. In this step, the coordinator should make sure that conflicting agendas across partners are discussed and made explicit. **[REALITY CHECK]** Jan Van Hecke made sure all partners were introduced to each other so that everyone knew what the other could bring to the table. Next, it was important to adjust stereotypes about “profit” and “non-profit” industries and to start sharing a common language. By acknowledging that people and organisations were different but that the challenge (i.e., creating an innovative, future-oriented healthcare industry) was shared, the group found common values and goals. Jan was convinced that starting a think tank without concrete short-term results would not be viable. To come to a set of shared short-term (12 months) goals Jan organized a mass-brainstorm and follow-up clustering. The larger group was thereto mixed and matched in internally diverse brainstorm groups of 5-6 persons according to industries, age generations, expertise, etc. The output of the brainstorm was then clustered into keywords. These keywords were then given to a creative team of 8-10 people to generate additional ideas and refine the wording. The result was a shift from pure economic profit goals to social profit goals, together with a shift towards a broader scope of patients instead of just the elderly. This refinement and change of direction of the initial challenge following the suggestions of partners shows the flexibility Jan needed when defining a shared challenge.	**[HOW?]** 1)Create a safe learning environment to stimulate openness and creativity. 2)Start an open dialogue across potential partners to develop a shared mental model and generate a list of potential shared goals based on the generally defined challenge. Generate ideas! 3)Select key shared goals with your potential partners, based on cross-industry commonalities and complementarities. Make sure conflicting agendas across partners are discussed and made explicit. **[TOOLS]** 1)GPS brainstormkit. The GPS-brainstorm kit is a structured method for brainstorming with 12 to 15 persons. The goal is to brainstorm as many as ideas possible and to cluster and assess the best ones in order to work further on concrete ideas. 2)Futurescan poster. This poster has +200 triggers to get people started. Each trigger looks at the new normal years or decades ahead of us (http://www.boardofinnovation.com/). 3)World café. This is a structured conversational process intended to facilitate open and intimate discussion, and link ideas within a larger group to access the collective wisdom in the room. Participants move between a series of tables where they continue the discussion based on predetermined and focused questions related to the specific goals of each World Café.

4.4. INSPIRATION CREATE

THINK

[WHAT?] In the final step of the inspiration iteration, a shared vision and mission is formulated by all collaborating parties together. A mission statement is a one-sentence statement describing the reason your organization exists and a vision statement outlines the desired end state/change resulting from your work. Each partner confronts the shared vision and mission with its own organisation's vision and mission. By endorsing the shared vision and mission, a potential partner becomes a sustainable partner. A partnership agreement is set-up and agreed upon. It typically includes the shared vision, mission and goals. Short-term goals are included in order to identify quick wins and to boost the energy and motivation of the collaborating partners to start working on the project.

[REALITY CHECK] The group started by Jan Van Hecke had a shared vision to target the European care market with valuable innovations to improve the well-being of patients with social profit as primary focus, while not excluding economic profit. The mission was to finish a project related to the care market every year. This short term mission was essential for boosting the start of the cross-industry project. When setting up the partnership agreement, collaborators agreed on the theme of "care rooms for patients". The goals were discussed and adapted until everybody agreed. Their first project was to create a prototype patient room of the future (PRoF). Clearly defined, short-term goals that were just outside the comfort zone incentivized partners to act quickly and made the partnership's added value transparent to other partners. It was a sign of progress and motivation, and eventually proof for outsiders to join or invest. After agreeing on the project, an NDA was signed. More importantly, however, was the presence of sufficient trust between partners. The NDA was a necessary but not sufficient condition for trust (that can only be achieved over time).

ACT

[HOW?]
1) Build a shared vision and mission that forms the foundation for the cross-industry innovation project

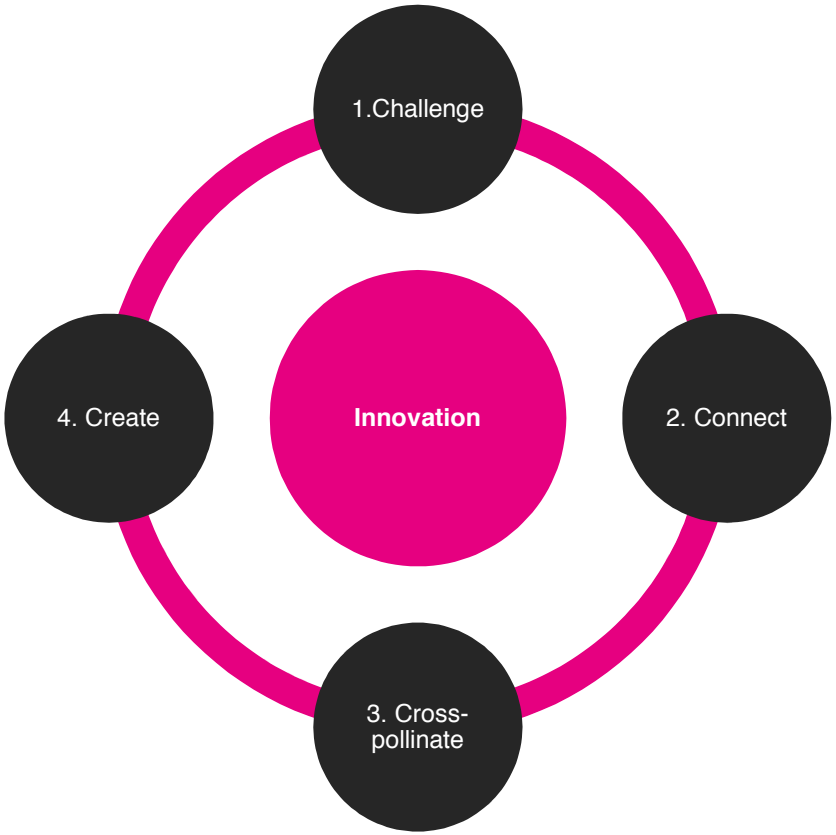
2) Every potential partner evaluates the shared vision and mission individually and/or with the people it represents. By endorsing the shared vision and mission, a potential partner becomes a sustainable partner.

3) Confirm partnership agreement, set up short-term goals and identify quick wins among sustainable cross-industry partners.

[TOOLS]
1) Dialogue of interests. The essence of this dialogue is to deepen the ambition of the possible collaboration by exploring the strategy you chose and what this strategy means for the parties involved. This conversation aims at accelerating the process of exploring and sharing by structuring the dialogue of interests.

2) Five Ws. These are the key points of your idea (mission):
- What is the big problem or need you're solving?
- What is the leap in value it offers compared to the current situation?
- Why is it important and exciting to you and your cross-industry partners?
- What have you accomplished so far?
- What do you still need for success?

5. CROSS-INDUSTRY INNOVATION PLAYBOOK



5.1. INNOVATION CHALLENGE

 **THINK**	 **ACT**
[WHAT?] In the first step of the innovation iteration, each partner searches for value opportunities in their own field of expertise. Each partner analyses their respective environment for opportunities based on their own specific strengths and expertise. These opportunities are then brought together so that the partners can go into dialogue about the shared opportunities that they observe. By bringing and discussing all the opportunities and strengths together, an overall value proposition is formed based on the shared vision and mission of the previous iteration. Typically, a more concrete challenge is then formulated that the participants of the project will continue to work on in the following steps of the innovation iteration. **[REALITY CHECK]** In the PRoF project, each partner screened its industry environment for opportunities and tried to identify value opportunities that fitted the larger scope of the project. For example, one value opportunity was increasing the efficiency of the patient room. The lack of efficiency in patient rooms was often due to the overload of administrative work for nurses. The rendering of nurses was of great concern for the health care representatives. Healthcare partners had the power and the know-how regarding health regulations. Industry partners had the experience, speed and interest to innovate and develop solutions. Both were complementary. Each partner made clear its concerns and potential value opportunities towards each other. The challenge formulated here was to improve the efficiency of the patient room in rendering nurses.	**[HOW?]** 1) Each partner searches individually for value opportunities based on the shared vision and mission developed in the inspiration iteration. 2) Bring all the input together and go in dialogue about the opportunities in order to define a value proposition/value stream that is valuable for both you and the existing (or new to attract) cross-industry partners, in line with the shared vision and mission. **[TOOLS]** 1) Interview at least three people in your own network/organisation to discuss upon the output of the inspiration iteration and how a possible partnership in this project could be valuable for your organisation. 2) It is important to think of more concrete value propositions that can be realised and are beneficial for your own organization based on the cross-industry collaboration. Draw up a possible value proposition interesting for your organization: for (target customer) who (statement of the need or opportunity), the (product/service name) is a (product/service category) that (statement of benefit).

5.2. INNOVATION CONNECT

 **THINK**	 **ACT**
[WHAT?] The coordinator of the project again searches, screens and selects the right cross-industry partners to involve them in the innovation iteration of the project. The list of potential initial partners from the inspiration iteration can be re-used. Additional partners can be added to fill competence gaps. The objective of this step is to select extra potential partners in order to form a well-balanced, cross-industry, autonomous, creative, holistic, open-minded, interested, but especially powerful and complementary group of partners. It is important here to search for organisations that can add value to the vision and specific value proposition. Their added value should be complementary to what existing partners can provide already (Verdonck, 2013). Before any cross-pollinating can happen, it is also important to learn to understand the pain points and motivations of other partners (Budde, 2009; Federation of creative industries, 2014).	**[HOW?]** 1) Identify, based on the value proposition/value stream idea, cross-industry partners that may be complementary and/or necessary to involve. 2) Select extra potential partners to have a well-balanced, cross-industry, autonomous, creative, holistic, open-minded, interested, but especially powerful and complementary group of partners. 3) Create a solid partnership for the project, by agreeing on the partnership and the project to work on.
[REALITY CHECK] Through the existing partners' networks and word-of-mouth, outsiders were beginning to show interest and the PRoF project started to grow. The project attracted both economic- and social profit-oriented industries. The initial partners had developed a 90/10-rule: only 10% of the partners could be from economic profit-oriented industries. The other 90% was social profit. The 10% was selected very carefully and proactively by Jan Van Hecke. Besides getting contacted by one of the existing partners, interested potential partners could also react to calls of PRoF projects for new partners. To select new partners, key criteria were complementarity, trust, connectivity, openness, commitment and understanding. Only companies not directly competing against existing partners were allowed. Jan Van Hecke monitored very carefully this competition element.	**[TOOLS]** 1) idem as inspiration connect 2) Use selection criteria. Partners are preferably selected with a focus on vision complementarity and provision of unique resources or competences. Other criteria like match with collaboration culture, openness, risk taking behaviour, commitment, cognitive distance, trustworthiness and spatial distance remain important as well. Watch out especially for bad matches on knowledge, culture, finance, IP or patents.

5.3. INNOVATION CROSS-POLINATE

 **THINK**	 **ACT**
[WHAT?] A safe learning environment is created to stimulate and sustain openness and creativity so that a dialogue can start between the selected partners. The aim of this cross-pollination step is that all participants together generate a list of shared ideas helping to accomplish the shared vision/mission. It is key to stimulate communication between partners, establishing incentive plans, searching for management support and looking towards external guidance (Gassmann, Daiber & Enkel, 2011; Lichtenthaler et al., 2011). As such, the "not invented here syndrome" can be avoided. It is also advised to observe how partners from different industries interact with each other and to talk and think along with them to see where there can be improvements for subsequent cross-pollinating sessions (Budde, 2009).	**[HOW?]** 1) Create a safe learning environment to stimulate and sustain openness and creativity. 2) Start an open dialogue across key stakeholder partners to generate a list of shared business model element ideas that may help accomplishing the shared vision/mission. 3) Make a selection of a list of shared business model element ideas with your key stakeholder partners. Value generating and value destroying potential of particular business model element ideas need to be discussed, made explicit, and taken into account.
[REALITY CHECK] In two half-day draft sessions in the PRoF project, the output in the form of concrete unfiltered solutions for problems is used to generate more concrete ideas in co-creation with open-minded partners. This to elaborate more on practical details like channels, resources, partners, etc. For example, partners wanted to be able to customise the patient room every couple of days since patients would come and go. An example of a solution here was the concept of a video wall. Instead of personalising the room with pictures and drawings, one could load different backgrounds directly on the video wall. Jan Van Hecke, as coordinator of the PRof project, paid close attention to the feasibility of the ideas within the one-year time span. To make the PRoF project more feasible, smaller subprojects were set up and defined to which relevant partners would then be assigned. The partners then had the choice to accept or refuse the subproject.	**[TOOLS]** 1) GPS brainstormkit. The GPS is a structured method for brainstorming with 12 to 15 persons as many as ideas possible and to cluster and assess the best ones. In this step you could brainstorm on the different blocks in the business model, possible stakeholders, innovation ideas, etc. 2) Selection criteria. There are seven key criteria to assess ideas in this phase: innovativeness, feasibility, scalability, economic profit, social profit, fit with current group vision, fit with vision of individual partners. 3) Persona. A persona is a tool to empathize with important stakeholders related to your business model, e.g., customers, intermediaries, partners, etc. It helps identifying key stakeholders' needs.

5.4. INNOVATION CREATE

 **THINK**	 **ACT**
[WHAT?] In the final step of the innovation iteration, possible innovation(s) that accomplish the shared vision/mission of the cross-industry partnership are developed. Every partner evaluates the shared innovation(s) individually and/or with the people it represents; when innovations are endorsed by all partners, it is deemed ready to be launched in the market. **[REALITY CHECK]** In collaboration with eventually 70 partners, Jan Van Hecke succeeded in the first concrete output co-created: a prototype of the patient room of the future. The selling concept used for the room was one in which you could buy the entire room and enjoy the synergy between the different product and service elements, or you could cherry pick only the things you found most interesting. The cherry picking allowed for hospitals and other care facilities to test some of the products before buying the whole room concept. It also allowed organisations with budget restrictions to still procure some of the innovative products. At the moment the PRoF consortium is busy with its fifth innovative project in the care industry: Prof 1.0 dealt with the patient room of the future, Prof 2.0 the care living room for seniors, Prof 3.0 the personalised retirement home, Prof 4.0 the Patient recovery room, and Prof 5.0 still locked up behind NDAs since it is still in development based on a collaboration of more than 300 partners. Each of the iterations opened up new insights and new networking possibilities to develop or expand the partners' initial business model towards uncharted directions in the healthcare market.	**[HOW?]** 1) Build possible business model ideas that may accomplish the shared vision/mission in the cross-industry partnership. 2) Every partner evaluates the shared business model idea(s) individually and/or with the people it represents; when the business model is endorsed by all partners, it is ready to launch successfully in the market. 3) Protection follows from uniqueness, complementarity, and shared character. It is possible to protect business model elements, but close to impossible to protect a complete business model. **[TOOLS]** 1) Business model canvas. A business model is an abstract representation of how an organisation creates, delivers, and captures value. 2) Blikopener. A short questionnaire generating a report providing feedback on the potential of the product/service, the market, and the organisational needs. You can use this tool to choose between different ideas or to see the evolution of your idea (http://www.ikinnoveer.be/blikopener). 3) Ideescan. By performing an idea scan, you go through the different phases of your idea. Based on your answers, you receive advice about how you can protect your idea (http://www.beschermmijnidee.be/).

6. REFERENCES

Arikan, A. (2011). Inter-firm knowledge exchanges and the knowledge creation capability of clusters. Academy of Management Review.

Basset-Jones, N. (2005). The Paradox of Diversity Management, Creativity and Innovation. Creativity and Innovation Management 14 (2), 169-175.

Benkler, Y. (2006). The wealth of networks: How social production transforms markets and freedom. Yale University Press.

Bingham, A., & Spradlin, D. (2011). *The Open Innovation Marketplace: Creating Value in the Challenge Driven Enterprise.* New Jersey: Pearson.

Brown, J. S., & Duguid, P. (1991). Organizational learning and communities-of-practice: Toward a unified view of working, learning, and innovation.Organization science, 2(1), 40-57.

Brünswicker, S., & Hutschek, U. (2010). Crossing horizons: leveraging cross-industry innovation search in the front-end of the innovation process. *International Journal of Innovation Management, 14*(4), 683-702.

Bryson, J. M., Stone, M. M., Crosby, B. C., & Saunoi-Sandgren, E. O. (2009). Designing and managing cross-sector collaboration: A case study in reducing traffic congestion. IBM Center for the Business of Government.

Budde, P. (2009). Big Thinking Strategies: Trans-sector thinking leading to smart communities. Bucketty.

Cruz-González, J., López-Sáez, P., Navas-López, J. E., & Delgado-Verde, M. (2015). Open search strategies and firm performance: The different moderating role of technological environmental dynamism. Technovation, 35, 32-45.

Debruyne, M. (2014). Customer Innovation: Customer-centric strategy for enduring growth. LannooCampus.

Deci, Edward and Richard M. Ryan (1985) Intrinsic Motivation and Self-Determination in Human Behavior. Plenum Press.

Devoldere, B., Beulens, M., Debruyne, M., De Stobbeleir, K., Meuleman, M., Sleuwaegen, L. (2014). De inspiratie economie: Een toekomstvisie voor de regionale ontwikkeling van Vlaanderen. Vlerick Business School & Flanders DC.

Enkel, E., & Gassmann, O. (2010). Creative imitation: exploring the case of cross-industry innovation. R&D Management, 40(3), 256-270.

Enkel, E., & Heil, S. (2014). Preparing for distant collaboration: Antecedents to potential absorptive capacity in cross-industry innovation. Technovation, 34(4), 242-260.

Fleming, L. (2004). Perfecting Cross-Pollination. Harvard Business Review, 82 (9), 22 – 24.

Frankenberger, K., Weiblin, T., & Gassmann, O. (2014). The antecedents of open business models : an exploratory study of incumbent firms [Karolin Frank. St Gallen: Institute of Technology Management, University of St Gallen.

Gassmann, O., Daiber, M., & Enkel, E. (2011). The role of intermediaries in cross‐industry innovation processes. R&D Management, 41(5), 457-469

Han, T. S., Chiang, H. H., & Chang, A. (2010). Employee participation in decision making, psychological ownership and knowledge sharing: mediating role of organizational commitment in Taiwanese high-tech organizations. The International Journal of Human Resource Management, 21(12), 2218-2233.

Heath, C., & Heath, D. (2007). Made to stick: Why some ideas survive and others die. New York: Random House.

Janis, I. L. (1971). Groupthink: The desperate drive for consensus at any cost. Classics of organization theory, 6, 185-192.

Loch, C., & DeMeyer, A. (2006). Managing the unknown: A new approach to managing high uncertainty and risk in projects. New Jersey: John Wiley & sons.

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. American psychologist, 57(9), 705.

Manyika, James, Bughin, Jacques, Lund, Susan, Nottebohm, Olivia, Poulter, David, Jauch, Sebastian, Ramaswamy, Sree (2014). “Global flows in a digital age: How trade, finance, people, and data connect the world economy,” McKinsey Global Institute, p180.

Nijs, D. (2014). Imagineering the butterfly effect. The Hague: Eleven International publishing .

Piller, F., & West, J. (2014). Firms, Users, and Innovation. New Frontiers in Open Innovation, 29.

Pertuzé, J., Calder, E., Greitzer, E., Lucas, W. (2010). Best Practices for Industry-University

Collaboration. MIT Sloan Management Review 51(4), 83-90.

Silverstein, D., DeCarlo, N., & Slocum, M. (2007). Insourcing innovation: how to achieve competitive excellence using TRIZ. CRC Press.

Teece, D. J. (1998). Capturing value from knowledge assets. California Management Review, 40(3), 55-79.

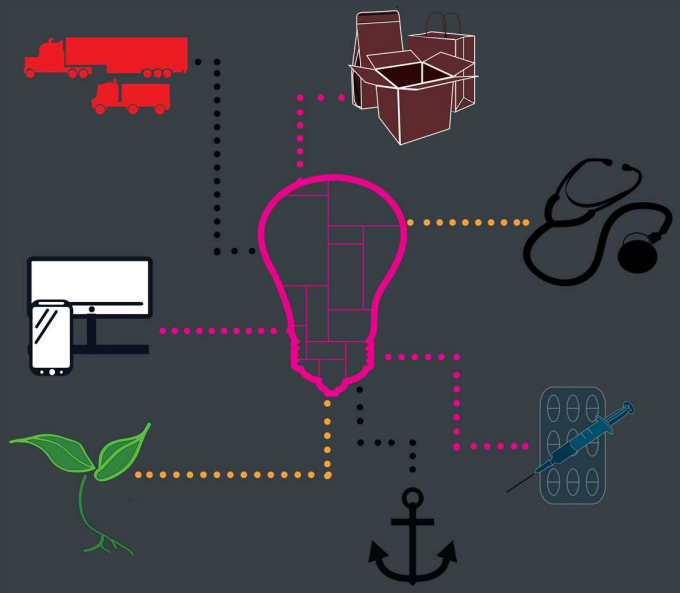
Turner, M. E., & Pratkanis, A. R. (1998). Twenty-five years of groupthink theory and research: Lessons from the evaluation of a theory. Organizational behavior and human decision processes, 73(2), 105-115.

Vanhaverbeke, W., Vermeersch, I., De Zutter, S. (2012). Open innovation in SME's: How can small companies and start-ups benefit from open innovation strategies? Flanders Dc knowledge center & Vlerick Business School.

Verdonck, G. (2013). Steuninstrumentarium voor open innovatie in bedrijven in Vlaanderen. Stichting Innovatie & Arbeid.

Von Hippel, E. (1994). “Sticky information” and the locus of problem solving: implications for innovation. Management science, 40(4), 429-439.

Jun Zhang, Kah-Hin Chai and Kay-Chuan Tan. (2005) Applying TRIZ to Service Conceptual Design: An Exploratory Study. Creativity and Innovation Management, 14(1), 34-42.



KNOWLEDGE PARTNER

ISBN-NUMMER: 9789492002075
D/2016/11.885/01

FLANDERS DISTRICT OF CREATIVITY VZW

DIESTSEVEST 76, B-3000 LEUVEN
T +32 16 24 29 24 **F** +32 16 24 88 44
INFO@FLANDERSDC.BE