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**Publication date**

2017

**Document Version**

Accepted author manuscript

**Published in**

Proceedings of the IASDR Conference RE: Research

**Citation (APA)**

Mejia Sarmiento, R., Pasman, G., Hultink, E.-J., & Stappers, P. J. (2017). Developing DIVE, a design-led futures technique for SMEs. In C. Vogel, & G. Muratovski (Eds.), *Proceedings of the IASDR Conference RE: Research* (pp. 770-787). IASDR.

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# Developing DIVE, a design-led futures technique for SMEs

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## Abstract

Futures techniques have long been used in large enterprises as designerly means to explore the future and guide innovation. In the automotive industry, for instance, the development of *concept cars* is a technique which has repeatedly proven its value. However, while big companies have broadly embraced futures techniques, small- and medium-sized enterprises (SMEs) have lagged behind in applying them, largely because they are too resource-intensive and poorly suited to the SMEs' needs and idiosyncrasies. To address this issue, we developed *DIVE: Design, Innovation, Vision, and Exploration*, a design-led futures technique for SMEs. Its development began with an inquiry into concept cars in the automotive industry and concept products and services in other industries. We then combined the insights derived from these design practices with elements of the existing techniques of critical design and design fiction into the creation of DIVE's preliminary first version, which was then applied and evaluated in two iterations with SMEs, resulting in DIVE's alpha version. After both iterations in context, it seems that DIVE suits the SMEs because of its compact and inexpensive activities which emphasize making and storytelling. Although the results of these activities might be less flashy than concept cars, these simple prototypes and videos help SMEs internalize and share a clear image of a preferable future, commonly known as *vision*. Developing DIVE thus helped us explore how design can support SMEs in envisioning the future in the context of innovation.

*Keywords: Design futures; concept cars; futures techniques; speculative futures; SMEs*

The majority of the globe's productive sector consists of small- and medium-sized enterprises (SMEs), each employing fewer than 250 people and with an annual turnover below EUR 50 million. SMEs at times, like any other business, need to re-invent themselves, not only to survive in the market but also to drive society towards a sustainable future, where communities meet their demands, considering the depletion of natural resources and without compromising the needs of the next generations (The World Commission on Environment and Development, 1987). To

address this urgency, SMEs could turn to applying so-called *futures techniques*, such as scenario thinking, which according to van der Duin (2007) are commonly used by managers in corporations to create a company's long-term innovation strategy. However, while the use of such techniques appears to improve SMEs innovation performance (Augustine, Bhasi, & Madhu, 2012), many cannot apply them (Stonehouse & Pemberton, 2002; K. O. Vishnevskiy & Egorova, 2015) because they are too complex, too resource-intensive and too far-fetched (van der Duin, 2007). Thus, according to Paliokaité (2010; 2013; 2015), Phillips (2013), and Vishnevskiy and Egorova (2015), SMEs demand simplified futures techniques tailored to their specific characteristics.

This paper describes the development of the first version of *DIVE: Design, Innovation, Vision, and Exploration*, a design-led futures technique tailored to SMEs. DIVE consolidates the learnings from our previous studies on *concept cars*, an established design practice used by large automakers to explore and communicate the future, which was adapted to fit the needs and limitations of SMEs in any industry. We first discuss how futures techniques can support enterprises' innovation, paying specific attention to their potential value for SMEs and the challenges developing futures techniques present for SMEs. Next, we explain DIVE's development process, followed by a description of its components. During its development, DIVE was evaluated with SMEs in two studies, which are described to illustrate how the characteristics of these enterprises have influenced the development of DIVE.

The paper makes two contributions for designers and design researchers interested in the confluence of *futures studies* with *design* for SMEs. First, it addresses the value of design and design-led techniques to support smaller firms in the front-end of innovation. Second, it provides insights into the common challenges and opportunities of developing design techniques for this particular context and these unique enterprises.

## **Futures techniques**

Futures techniques –the variety of ways to think, map, and influence the future (Hines, 2016)– can be classified into two categories: *management-led* and *design-led* (Mejia, Pasman, & Stappers, 2016). *Management-led futures techniques* pursue a systematic, analytical and verbal process, which usually ends in rational outcomes targeted at specialized audiences. Typical examples of these techniques are *technology roadmapping*, *scenario thinking*, and *trend analysis*. Although these techniques are valuable, their processes and results have several limitations. Their processes favor abstraction (Candy & Dunagan, 2016; Phillips, 2013) and thus lack contact with real situations, and they are resource intensive and time consuming (Coates, 2003). Furthermore, their outcomes are normally high-level scenarios which lack a sense of the human-scale (Candy & Dunagan, 2016). Therefore, management-led futures techniques tend to fall short in informing other people involved in innovation, thereby making implementation and diffusion more difficult.

By contrast, *design-led futures techniques* “engage people more viscerally in futures conversations” (Candy & Dunagan, 2016), bringing futures techniques “out of the abstraction and into the experience; into the body” (Candy, 2010). These futures techniques do not follow a cognitive reasoning process but instead use the designerly way of knowing, which translates abstract questions into concrete objects (Cross, 1982), to creatively explore speculative futures. This approach uses making activities, such as prototyping, “as vehicles for [...] exploring, expressing and testing hypotheses about future ways of living” (Sanders & Stappers, 2014). Therefore, while management-led futures techniques produce mostly highly complicated and

abstract outcomes, the results of design-led futures techniques are fictional artefacts which are more accessible and engaging to the general public.

### But what about the SMEs?

While futures techniques are useful for larger enterprises, their characteristics limit their use for SMEs. In working with SMEs over the last fifteen years, we have come to realize that although these enterprises are concerned about the future and want to leave a legacy to their families and communities, they rarely think about the future in more detail. The reason may be that they get trapped in a vicious circle of a *lack of resources* and the *urgency of the present*. SMEs spend much of their resources on operational activities, and are left with no means to explore the future as extensively as large corporations get to do (Holmes & Ferriill, 2005; Hewitt-Dundas, 2006; van der Duin, 2007; Augustine et al., 2012; K. Vishnevskiy, Karasev, & Meissner, 2015). This lack of resources means they cannot create a department dedicated to futures and innovation with specialized researchers with the appropriate skills to study the future and enough information to analyze medium-term and long-term trends (Christofol, Delamarre, & Samier, 2009). The urgency of the present exacerbates this lack of resources, forcing SMEs to act immediately, putting off any behavior that focuses on the future, “such as planning and delaying gratification” (House, Hanges, Javidan, Dorfman, & Gupta, 2004). For many SMEs, trapped in this vicious circle, “there will always be an excuse not to look beyond the here and now” (van der Duin, 2007).

As mentioned above, large enterprises have another way to think about the future, the design way, but this is also not the case for SMEs. While some design researchers (Selek, 2009; Yström & Karlsson, 2010; Mortati & Cruickshank, 2011; Rodríguez Donaire & García-Almiñana, 2012; De Lille, 2014) have examined issues related to the role of designers working in, for, or with SMEs, little is known about how design can support SMEs in exploring the future. Research by Delamarre et al. (2005) and Christofol et al. (2009), however, suggests that “concept products used in major companies are pertinent for providing [...] innovation in SMEs”. These inquiries studied the making of two concept products by a medium-sized company, which collected a considerable number of trends and ideas of new products, resulting in twenty-nine strategic road maps and two patent applications. In the latter study, they suggest that making concept products brings together investigations in diverse fields and fosters the development of new behaviors, such as curiosity and lateral thinking, thus increasing the SMEs’ innovation performance (in this case by 30%). These claims were also hypothesized by Borja de Mozota (2002), who states that the making of a concept product is an effective tool for smaller enterprises to view the future and incite reactions from other departments.

Considering the insights on futures techniques in corporations and the characteristics of SMEs described above, *vision concepts* appears to be a promising way to sketch and anticipate the future of smaller players in different branches of the industry. However, due to the limitations of this context, the technique will need to be adapted. The question is then: *can SMEs derive the same benefits from applying vision concepts?*

### The development of DIVE

In a previous study (Mejia, Hultink, et al., 2016), we found that *concept cars* are made using a hands-on process, which uses visual synthesis, prototyping, and storytelling, to explore and

communicate the future. As Figure 1 shows, the basis of this process is a creative brief, which includes a design challenge and a time frame. Following this brief, the making activities start with an analysis of future context factors to define a vision of a preferable future in alignment with corporate values and strategic direction. Based on this vision, designers make sketches and rough prototypes, at different scales and resolutions, to create, develop, test, select, and share ideas with people within the company. When they share these ideas, whether a new technology, style, or interaction, designers create short stories to give them context. When the final idea is selected, they make a refined prototype and a video, to visualize the concept car, and its interaction with users within its context. At the end of these activities, the company shares the physical and narrative manifestations to allow many parties involved in change, both inside and outside the enterprise (Mejia, Hultink, et al., 2016), to experience the concept car as true to reality as possible, to spark discussions about its future. These conversations take place through workshops and exhibitions at three different context levels: team, in-company, and public.

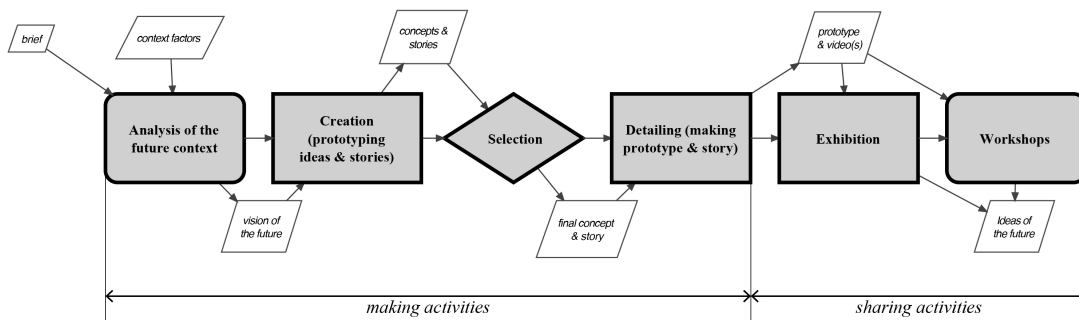


Figure 1. Flowchart with the concept cars’ making and sharing activities (Mejia et al., 2015).

The result of this design-led technique is a concept car: an ‘experimental artifact’ (Styhre, Backman, & Börjesson, 2005) of the future, unrestricted by constraints imposed by the present conditions, such as production capabilities and market regulations. Figure 2 displays an example of a concept car shown for public viewing at a motor show.



Figure 2. Exhibition of the Peugeot Exalt concept car at the 85th International Motor Show, Geneva, 2015. It shows the prototype of the concept car, the video projected at the background, and the audience in front of both elements.

At the end of this study, we identified that this design practice is not for the exclusive use of automakers, as different corporations in other industries also make and share concept cars, products, and services. Some corporations call such artifacts ‘concept cars’ even though they don’t

produce cars, such as Intel and Microsoft, while others such as Ikea, Philips, and Electrolux call them ‘concept products’. To avoid confusions, we will refer to concept cars, products, and services from now on as *vision concepts*, following the notion introduced by Keinonen and Takala (2006). Vision concepts materialize the company’s image of the future through an artifact and a story that can be experienced by different people, putting this vision into action (Mejia, Pasman, et al., 2016), and supporting “the company’s strategic decision-making beyond the range of product development” (Keinonen & Takala, 2006). Large enterprises make vision concepts as a design-led futures technique to gain insight into the future and thus assertively make decisions in the present to guide their innovation (Mejia et al., 2015).

However, making vision concepts is a time-consuming and expensive activity, requiring a costly team of highly skilled professionals, including designers, engineers, and brand and communication experts. Typically, an automotive manufacturer employs a team of six professionals for a period of approximately eight months to develop a concept car, with a final investment of around one million Euros (Mejia, Hultink, et al., 2016).

To downscale the making and sharing activities described above, we turned to two other design-led futures techniques which come from academia and are applied in smaller-scale projects: *critical design* and *design fiction*. According to its creators, Dunne and Raby (2013), critical design “uses speculative design proposals to challenge narrow assumptions, preconceptions, and givens about the role products play in everyday life”. Design fiction is a technique to develop “micro future studies that pay particular attention to the everyday life and the standard objects or services that might fill possible futures” (Girardin, 2015). Both techniques use the materiality and language of design to prototype elements of a believable future (Candy & Dunagan, 2016).

There are three things that make these two design-led futures techniques particularly interesting: (i) they use fewer resources, much less money and time than techniques used by large corporations; (ii) they effectively use rough prototypes and simple videos to trigger reactions and spark conversations; and (iii) they create more radical concepts, which challenge the present situation and propose an extreme change for a broad range of topics, from social to environmental, including technological issues.

#### First iteration: The Alchemist Club 2025 for Marliou

To define the characteristics of DIVE, we formulated a *value proposition*, which clarifies the way in which the value –or benefit– will be delivered and experienced. DIVE’s value proposition was stated as: “*a rapid, inexpensive, and practical design-led technique to support designers and business people who run SMEs in exploring and communicating speculative futures to boost their innovation capabilities.*”

In view of the value proposition and the insights from critical design, design fiction, and concept cars –including the making and sharing activities described in Figure 1–, we collected and defined initial ideas in an ad-hoc iteration with *Cosméticos Marliou París*; a Colombian medium-sized enterprise focused on hair care products. In this iteration, the first author acted as the designer.

To understand the company and thus define the creative brief of this exploration, the first author used a tool he created: *Strategic PES*. This tool deconstructs SMEs to identify their values and know-how, products and services, facilities and stakeholders, and end-users, through a simple workshop (Mejia & Parra, 2014). It builds on the similarity correspondence between a company

and a living being: a fish<sup>1</sup>, whose goal is to survive and reproduce in a body of water. Following the analogy, the fish embodies the enterprise; the river, lake, or ocean symbolizes the context in which the organization delivers value; and the adaptation to the context's change implies the innovation. Only fishes that properly adapt to a changing context can survive. Since 2011, the first author has applied this tool in twenty-five large projects with SMEs, and around eighty intensive workshops with more than four-thousand business people in Colombia, Suriname, and Peru. It proved to be effective in disentangle the business people from the company, facilitating a more objective diagnosis of the firm's condition without any hard feelings. Furthermore, participants can see the company as a whole, understand its complexity and recognize the relationships among the company, external stakeholders, and the context, as well as the internal relations (Mejia & Parra, 2014). In this iteration, the Strategic PES revealed that *"Marlioü is a two-headed trout, living in a peaceful pond"*. Through its life of permanent service to the community, the trout is changing, and sprouted a second head; as the family enterprise is handing down the business to the third generation, the company seems to move in two opposite directions at the same time. One head, the incoming manager, wants to move to an unexplored small pond, a high-income market where the company can use information technologies; the other head, the outgoing director, is focused on the current pond, where the fish is already well known by many low-income users. Marlioü needs a new vision of a desirable future, genuinely informed by its beliefs, that blends the desires of the relevant heads, the family members. After analyzing products trends and users' expectations, the first author defined a vision for 2025: *"Marlioü wants to reinforce its presence in the low-income market by offering a personalized care service via a network of beauty consultants, who are fully supported by information technology, helping them identify users' needs."* With that vision, he sketched the service offered by the consultants and the equipment they needed. With these sketches, the first author made rough cardboard prototypes of various initial ideas of products and mobile apps and then tested these in a role play with two designers (see Figure 3).



Figure 3. Image of an external designer role playing with the rough prototypes.

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<sup>1</sup> In Latin America PES is pronounced as pez, which means 'fish' in Spanish.

This exploration resulted in a vision concept: *The Alchemist Club 2025* shown in Figure 4. It is a network of beauty consultants assisted by a kit of hair products; an input device which interact with tablets and cell phones to measure, compare, and experiment with the hair products; and a do-it-yourself apron. All these elements are supported by a mobile app which trains the beauty consultants and collects insights from the clients. Finally, he developed a sequence of screenshots of a Twitter account to share the vision concept. The sequence of tweets presents the story of a fictional beauty consultant, part of The Alchemist Club, in 2025.

In this iteration, the first author examined how to align the conflicting visions of the incoming and outgoing managers, and the company values. The vision he came up with shows how the company can use information technology to improve client contact. It also identifies how the company can engage with beauty consultants to reinforce Marliou's presence in low-income markets.



Figure 4. Picture of the final prototype including the tablet Alchemist Board and the app Alchemist Lab. A detailed description of this iteration online <http://pktweb.com/dive/2017/08/04/the-chemist-club-2025/>.



This iteration tested, at an early stage of the development, the essential activities (in view of those shown in Figure 1) to make the vision concept for the SME, including the definition of the primary resources needed: forty hours of a senior designer.

The activities were sufficient to make the vision concept with few resources. He incorporated a company evaluation, prior to the future context analysis. In this activity, the first author was guided by a powerful analogy that, with little time, brought plentiful insights into the company. However, a visual aid is needed to reinforce this analogy. To formulate a vision, a simplified STEEP analysis<sup>2</sup>

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<sup>2</sup> social, technological, economic, environmental, and political



was sufficient. After that, again with little time, the first author tested the initial idea using rough prototypes in a role play. This leap out of the abstraction of the company's diagnosis and the context factors into the vision concept, at the earliest phase of the process, was tremendously useful as it gives us time to reflect on the experimental artifacts and the service, the vision concept, and therefore, collect more ideas about its context, the future. However, we needed a *closing meeting* where the enterprise gets to implement the vision concept, and the recommendations emerge in consensus with the company representatives, instead of just from the designers.

At a content level, this iteration gave evidence that DIVE starts by analyzing the company values and continues by identifying the values of the human beings, who are or will be related to the enterprise. The technique ends with a vision concept, an artifact that explores the desirable interactions, deeply informed by those values, between the company and these people in the speculative future.

### **DIVE: Design, Innovation, Vision, and Exploration**

Based on the lessons from this iteration, we then developed the first version of DIVE (see Figure 5) by extending the analogy of Strategic PES. DIVE is a design-led futures technique that assists designers in making and sharing vision concepts for SMEs. It is developed to be used by a team which includes up to three external designers, as process owners, and three company representatives, as problem owners. The former should have expertise in design researcher and communication, and the latter, as Sanders and Stappers (2012) say, “are the experts of their own experience”. In this version of the technique, the making and sharing of the vision concept takes forty hours of the designers' time and ten hours of the company representatives' time and a small budget for visuals and prototypes.

The technique consists of a quick dive into the depths of speculative futures and a swim back to the world as it is. During this journey, designers act as *instructors* and the company representatives as *scuba divers*. Initially, underwater, the company is seen as a *fish* that swims in calm or troubled waters. Instructors then accompany the divers in envisioning future waters and defining a vision. Using this vision as an inspiration, instructors and divers draw, make prototypes, and create stories to set up the vision concept, resulting in a rough prototype and a video. Finally, on land, the instructors use these artefacts to spark a conversation among several people about the future of the fish, shining a light on the decision-making in the present.

DIVE follows a path along *five activities*, shown in Figure 5: (i) Understanding the present, (ii) Approaching the future, (iii) Exploring the future, (iv) Communicating the future, and (v) Looking back into the future.

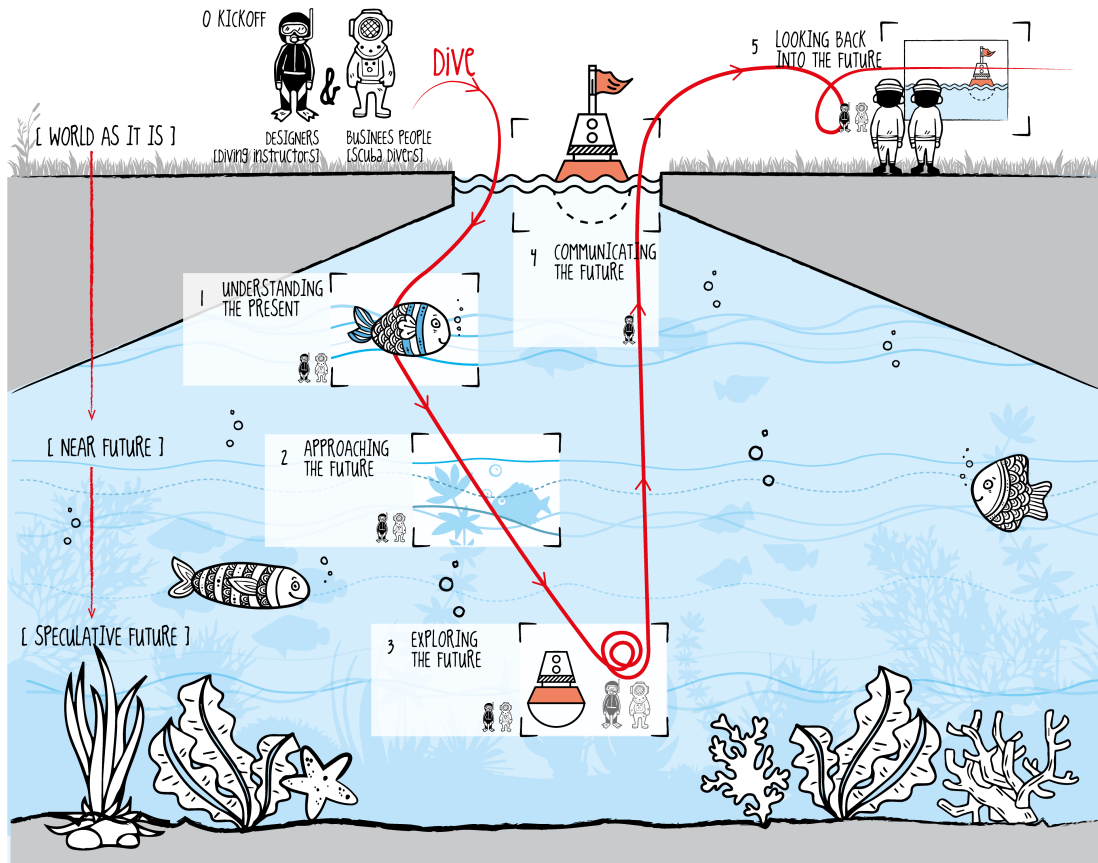


Figure 5. DIVE’s blueprint, including a path that guide designers and the company representatives exploring and communicating the depths of speculative futures. The full explanation of DIVE online <http://dive.pktweb.com/>



As part of the *Activity 1 Understanding the present*, the designers apply the Strategic PES (shown in Figure 6) with the company representatives, to set a *domain* and a *time frame*. According to Hekkert and van Dijk (2011), the domain delimits the focus area of the process in which designers aim to contribute, “acting as a map that guides [the] exploration of the context and the factors to be taken into account. [It is] (preferably) a particular area in life.” Moreover, the time frame is an interval of time which moves from the world as it is to the speculative future, to help companies map change when they think about the future (Mejia, Pasman, et al., 2016).

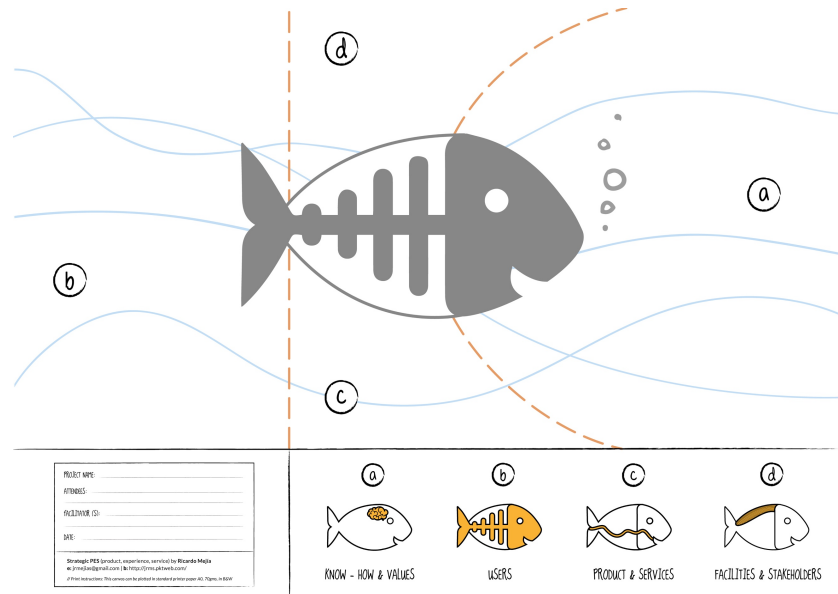


Figure 6. A visual aid for the Strategic PES. According to Mejia, Jimenez, and Chavarria (2014), the fish, which represents the SME, is divided into four parts: its head describes the company’s know-how; the tail shows the users as a rudder that steers the company; the back displays the company’s infrastructure; and the belly plots the products and services.

In **Activity 2 Approaching the future**, the designers conduct desk research and field work to collect *context factors* (see Figure 7). With this picture of the future, they cluster these factors with the company representatives to define a *vision*, which captures what the vision concept should do and be before it is made. The vision consists of a statement describing what the designers want to offer people within the domain, including a definition of the interaction qualities (Hekkert & van Dijk, 2011).

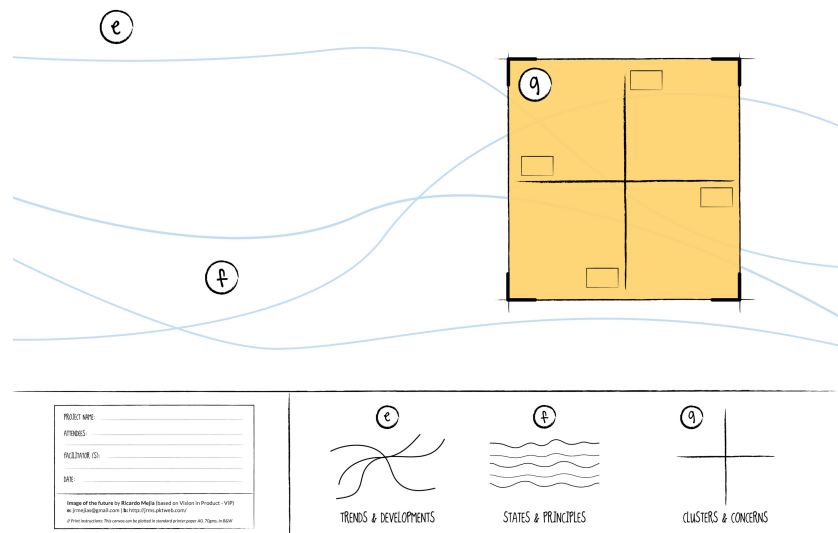


Figure 7. Canvas used to report the different context factors: the changing trends and developments and the stable states and principles. These factors are value-free descriptions, which include observations, thoughts, theories, beliefs, or assumptions, of world phenomena (Hekkert & van Dijk, 2011) as they emerge anywhere. The quadrants chart is used to cluster the factors and define a vision.

Following the vision, in **Activity 3 Exploring the future**, the designers imagine, experience, test, select, transform, develop, and complete early ideas by making different prototypes: sketches, diagrams, and mockups (Sanders & Stappers, 2014). By the end of this activity, they will have a collection of information that describes the vision concept: a concept product, service, or product-service system.

In **Activity 4 Communicating the future**, the designers make a *rough prototype* and create *visuals* and a *narrative* to share the vision concept. The last two elements support the prototype, placing the vision concept in an image of the future, complete with people, context, and their relationships. This support is important because, as Stappers (2013) argues, rough prototypes are physical manifestations of ideas or concepts that only give the overall idea, to evoke discussion and reflection.

Finally, in **Activity 5 Looking back into the future**, the designers facilitate a conversation with the company representatives and other stakeholders to map the company's future. The designers use the vision concept, embodied in the prototype, the visuals, and the narrative, to help participants express their thoughts, feelings, and ideas about the company's future. Along the conversation, the designers make a *road map* with strategic recommendations for the near and speculative future of the SME.

The activities were described in a booklet together with the two canvases shown in Figure 6 and 7, which support the designers in documenting the first two activities.

## Second iteration: Continental Energy 2030 for Continental Boilers

The first author, in collaboration with two senior designers, ran this second iteration with *Continental Boilers*, a small-sized family enterprise focused on the manufacture and delivery of steam boilers, hot water systems, and heat exchangers.

Through the Strategic PES, we found that “*Continental Boilers is a salmon with small fins – products with minimal turnover, long life-cycle, and inexpensive maintenance– and it is swimming against the current.*” To survive in the river, the salmon either needs to grow the muscles of its fins or find an alternative way to swim, such as by introducing new products or another business model. After a STEEP analysis, in which several context factors were organized in a 2X2 matrix, a vision emerged: “*Continental Boilers wishes to provide steam and hot water to factories within industrial parks through a service that follows the client's needs, being in the forefront of the environmental regulations.*” After several iterations, which included sketches of new services and products, we created the vision concept: *Continental Energy 2030*, a service that includes the selling of steam and hot water and the renting of portable boilers and heat exchangers. To support this service, the company will offer the client a mobile app to control its consumption and receive technical support. Following this activity, we produced a simple video of a fictional client, an industrial laundry, in need of steam and hot water for its washers and dryers that help reduce its energy consumption. Through the video (see Figure 8), we introduce the main features of the 2030 service.

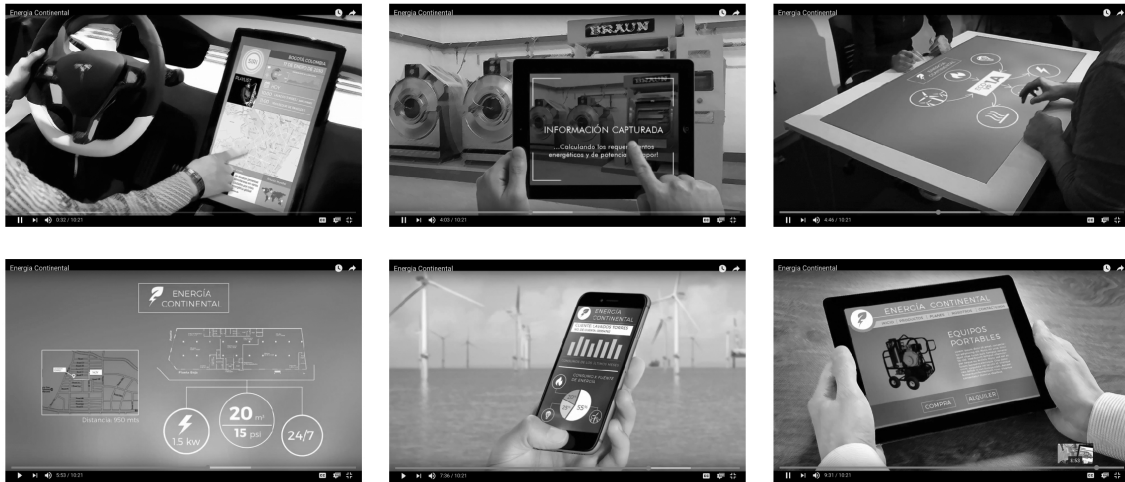


Figure 8. Frames of the video Continental Energy 2030. A detailed description of this iteration and the full video (in Spanish) online <http://pktweb.com/dive/2017/08/04/continental-energy-2030/>



We arranged a workshop with three company representatives: the general manager and the directors of innovation, and marketing and sales (see Figure 9). We used the video to stimulate a conversation about the Continental Boilers' desirable futures. Based on this conversation, we formulated a series of recommendations setting a track between the present and the future, explored by the vision concept.



Figure 9. Picture of the final workshop where designers and company representatives sketch a road map of the futures.

This exercise explored how Continental Boilers might increase their business with a solution that is aligned with its values on sustainable development. The vision concept describes a transition from a product-driven business to a service-oriented model and portrays the potential allies that can help this transition.

This iteration was useful to consolidate the definitive activities and the technique's resources: forty hours of the senior designers' time and ten hours of the company representatives' time. Although this iteration needed an extra activity –a *closing meeting*– and more resources than the previous

one, the consolidated activities were sufficient to make and share the vision concept within the limitations of an SME.

Both the initial analysis and making the video took longer than expected, but the video proved essential in sharing the vision concept and its context to effectively stimulate the conversation with the company representatives in the closing meeting.

According to the designers, standards by which they could judge the quality of the outcomes are needed; they additionally suggested templates to document the process. Considering that not all designers have the same skills facilitating workshops, they also proposed incorporating recommendations on how to deal with the company representatives, who tend to talk mostly about the present instead of the future, especially during the closing meeting.

The company representatives were positively surprised by the way the designers incorporated the company values within the vision concept, and the insights delivered by this exercise that they described as “design for strategic innovation.” They considered that DIVE is beneficial to identify short-term challenges; some of them related to the product, such as the question phrased by the general manager: “how do our boilers adapt to different types of energy?”; and others to the general business strategy, such as the value proposition formulated by the director of marketing and sales: “I don’t sell boilers, I sell energy solutions.” Having identified these challenges, company representatives put them on the agenda, stimulating their feeling of urgency motivated by the way the ‘world as it is’ is changing. They also identified potential alliances and allies that help the enterprise face this change. The general manager summarized the DIVE experience as the “first moment, in a long time, that [they] had the chance to look at the future.” According to him, they are “so involved in the daily life –[they] have been doing the same for 48 years– that it’s difficult to think ahead”. However, he identified that “it’s hard to manage change within the enterprise’s culture, in particular when it involves family members’ interests. But this exercise was useful to see the company in the light of international trends and understand their potential effect on the business.” He also mentioned that “it was nice to see a concrete example of our environmental values in practice and guiding our future actions.”

## **Conclusions and further research**

Throughout the development of DIVE, in particular during both iterations in context, it became clear that design can be a powerful instrument to get representatives of SMEs thinking, talking, and acting about their company’s future. DIVE seems to be well suited to the preferences and idiosyncrasies of this particular type of enterprise. It is compact, both in terms of time and money; it has a hands-on character, as it involves making prototypes and videos; and it emphasizes concrete outcomes on a human-scale rather than abstract strategies. As such, designers and design researchers who are developing techniques for SMEs could benefit from the process described in this paper.

By turning concepts into simple physical prototypes or videos, DIVE makes it easier for participants to understand and adopt a future vision that fulfils their expectations. While these vision concepts might be far less showy than high-end concept cars, their down-to-earth qualities and unfinished nature make them much more accessible for discussion and reflection. Even though the making of these prototypes and videos takes up a considerable part of the available resources,

its application is essential and should therefore always be included in a design-led futures technique.

While DIVE certainly shares elements with other techniques that apply co-creation principles, its novelty is in its visionary character and the value it puts on the making of a realistic vision concept. The experiences from both iterations indicate that this forward-thinking exercise provided the participants with some new horizons as well as specific directions for their company's future. More development is needed, however, to tailor these aspects further.

Finally, DIVE has so far been evaluated in controlled settings, with the main author acting as the leading designer and facilitator. The next challenge will, therefore, be to put DIVE out in the field, to be able to evaluate how it will stand up on its own. We hope to report on the results of such an evaluation in due time.

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Acknowledgements: This research is supported by *Colciencias*, the Colombian Government's Administrative Department of Science, Technology and Innovation. Special thanks to Emilio Jiménez from Marliou; Gonzalo Gomez, Daniel Vergara, and Carlos Gonzalez from Continental Boilers; and Alejandro Chitiva and Fabio Ariza.

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