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## DEVELOPING LOCAL POLICIES FOR INITIATING AND IMPLEMENTING CREATIVE-SECTOR BASED CROSS-INNOVATIONS: FINDINGS FROM THE AMSTERDAM-REGION

**ABSTRACT** *Cross-innovations are very important for the transition from an ‘innovation economy to a ‘creative society’. This requires that local governmental innovation policies regarding the initiation and development of cross-innovations also change. Although the creative industry in the Amsterdam-region is not performing badly, modernizing their cross-innovation policy is necessary and means that they have to pay more attention to ‘grand societal challenges’, shift the focus and innovation policy resources to latter phases of the innovation process, consider the creative sector as diametrically opposed to other sectors, support creative companies in getting their business ideas financed, and introduce the concept of the ‘creative worker’ to make other industries more creative.*

*Keywords:* cross-innovation, innovation policy, cross-over, Amsterdam, creative industry

### Introduction

The creative industry is an important industry for the Dutch economy and for Amsterdam in particular. The creative industry is “a driving force behind various economic and social processes (Rutten, Marlet and Van Oort, 2011). To further develop this industry and to support the transition from an ‘innovation economy’ to a ‘creative society’, more focus should be put on so-called ‘cross-innovations’, i.e., innovative co-creation between the creative industry and other industries. Therefore, governmental policy regarding this industry should also make a next step.

In this paper we analyse the current innovation policies of the city of Amsterdam with regard to cross-innovation and formulate recommendations by which those policies can be made more suitable for supporting the initiation and development of cross-innovations.

Our research activities for this paper took place from April 2012 until July 2014 in the framework of the Interreg IVC-project “Promoting Cross-Innovation in European Cities and Regions”, together with cities such as Birmingham, Berlin, Lisbon, Stockholm, Tallinn, and Warsaw. The goal of this project was to exchange best practices and experiences with regard to cross-innovations with these cities. As part of the project we interviewed five Dutch experts on the creative industry, we organized a workshop with innovation-experts from the Amsterdam-region, we visited several cities participating in the project, and we analyzed several governmental documents on innovation policy in the creative industry.

The current ‘creative industry’—innovation system of the Amsterdam-region

The Amsterdam region has many different organisations (actors) involved with innovation in the creative industry having different roles: developing innovation policies, setting up new business, providing various types of support to new businesses, developing new knowledge upon which new businesses can be built. A selection of the most important innovation actors:

Type of innovation actor	Actors
Education	University of Amsterdam, Free University of Amsterdam, Gerrit Rietveld Academy, Universities of Applied Science in Amsterdam (both on business and arts), Various schools involved with new media and design
Multinationals	Endemol, Spilgames, MTV Networks, LBI, Sanoma, Microsoft, Wolters Kluwer, Eyeworks, RTL
SMEs	Marcel Wanders Studio, Guerila Games, Fabirque, Frog Design, Unstudio, Droog, Mojo
Events	IDFA, Holland Festival, Picnic, Cinekid, IBC, ADE
Art and culture	Stedelijk Museum, Rijksmuseum, Van Gogh Museum, Hermitage, FOAM, Carré, Concertgebouw

Table 1: Important actors in the creative industry in the Amsterdam region.

If we look at the several relationships between these ‘innovation actors’ this industry appears to be very complex:

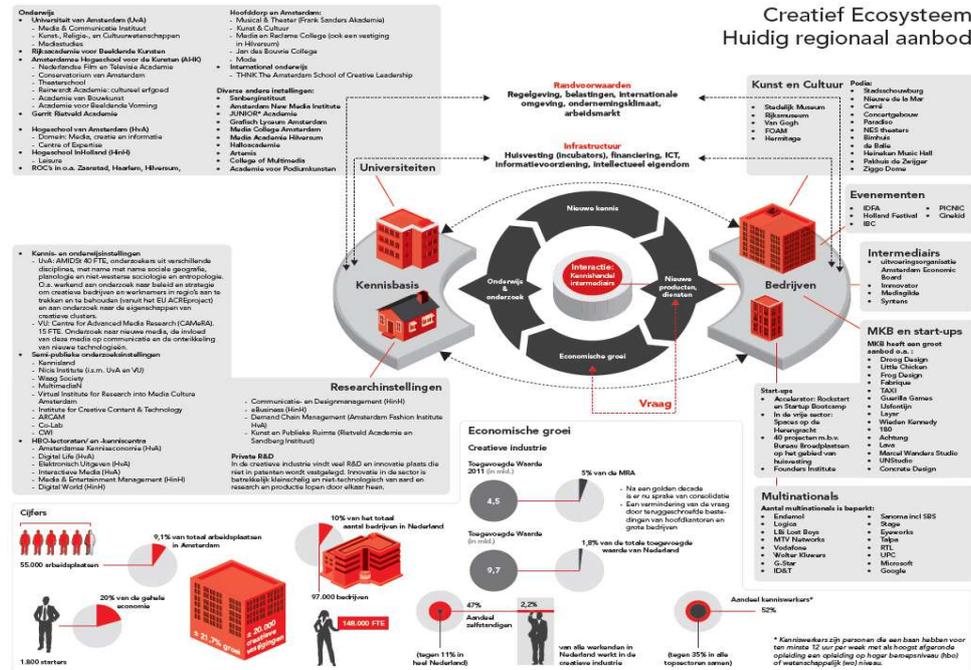


Figure 1: the ‘eco-system’ of the creative industry in the Amsterdam Metropolitan Region.

Table 1 and Figure 1 show that Amsterdam has many actors on the ‘soft side’ of cross-innovation but that actors involved with ‘hard technology’ are somewhat underrepresented. The current initiative to set up the Amsterdam Metropolitan Solutions institute is a first attempt to fill this hole. Nevertheless, the soft sciences can be a valuable input for cross-innovation and a source of inspiration for technology-based (cross-) innovations (Interview with Rens Bod).

### Defining cross-innovation

Next we define *cross-innovation* (or *cross-over*) by first defining *innovation* identifying six elements:

1. The amount of newness and change: some innovations cause *radical* changes in market and society (e.g., the car, or Internet), others have less impact and mainly can be interpreted as simple extensions of products and services that were already in place (e.g., airbag) (*incremental* innovations).
2. Process: various activities need to be carried out to ensure that an idea or a patent for an innovation is ultimately implemented into the market or society. All these activities together form the innovation process.
3. Implementation: An innovation can only be called as such if it is commercially available and has impact on market and/or society. Everything before implementation into a market is not an innovation but (merely) an idea of an innovation, a patent, or a business case.
4. Broad view: innovation is much more than new technology embodied in new products. Innovation has become much more intangible, meaning that ‘soft’ elements such as business models or design can be of strategic importance to developing innovations.
5. Interconnection: innovations are often depended on each other for being implemented. For instance, to enable the development and use of electric cars it is required to develop other innovations such as a different kind of engine, to install charging stations, and to have new business models.
6. Uncertainty and creativity: innovation processes are inherently uncertain because one cannot upfront predict how the innovation will look like and how successful it will be. Innovation processes therefore require creativity, necessary to address this uncertainty and, vice versa, creativity is the cause of uncertainty.

Since cross-innovation results of linkages between the creative industry and other industries, the interconnection-element is important. Indeed, innovations often come from different industries: Google was not set up by Yellow Pages, and computer games were not invented by Mattel. Industries are difficult to separate, and companies from different industries often cooperate in developing new products and services (innovation). For example, Philips and Sara Lee together developed the *Senseo* (figure 2).



Figure 2: The Senseo, a coffee machine developed together by Philips and Sara Lee.

Cooperation with regard to cross-innovation between different companies in different industries can have various forms (see also Enkel & Gassmann, 2010):

1. Cross-innovation as an output or application—to be used/applied
2. Cross-innovation as a process innovation—Used in a company's 'production' process
3. Cross-innovation as an enabler—as a tool in an innovation process
4. 'True' cross-innovation—Cooperation/merging of the creative industry and other industries

These four different forms of cooperation range from a simple way of cooperation (basically a 'classical buyer-supplier relationship') (no.1, 2, and 3) to a much more complex type of cooperation (no.4) in which different companies from different industries, including the creative industry, are developing innovations. Because of the intensity and strong linkage between the different companies from the different industries, as described in no.4, we can state that the output of these joint innovation processes can be called *cross-innovations*. So, based on the above we define cross-innovation as:

*the process and implementation of new products, services, processes, organizations, and business models developed in close cooperation by various organizations (profit and/or non-profit) from the creative industry and other types of industries, and that address one or more societal challenges.*

We will explain in a later paragraph why we include 'societal challenges' in this definition.

A fine example of a cross-innovation in the Amsterdam region is the 'SmartGate' which is a serious game which has the goal to inform how the various involved actors are related to the logistic flows at Airport Schiphol and how to optimize these flows. This case has been developed by a creative industry company (IJsfontein, a game company) together with Schiphol (an airport).



In addition we consider the concept of cross-innovation as part of a wider class of innovations that are at the crossroad of different industries:

*1. Cross-overs*

- a. New product consists of existing products: e.g., mobile phone + camera
- b. Product in industry A is taken over by industry B: e.g., gas stations selling flowers, food etc.

*2. Transsectoral innovations*

“Risky, deliberate, often technological innovation in companies, based on the ideas gathered from outside its own industry, developed with the support of organizations which are not part of the daily business, and which lead to a new paradigm with regard to production and doing business in this industry” (EIM, 2005, p.8)

*3. Spill-overs*

Positive (negative) effects of industry A on Industry B: using innovations makes you more innovative (e.g., process innovations)

*4. Enabling technology (also: general purpose technology)*

For instance, ICT is an enabling technology for many industries (e.g., finance, logistics, entertainment).

Our definition of cross-innovation is more close to cross-overs and transsectoral innovations on the condition that the creative industry is included, than to spill-overs and enabling technology. Cross-innovation are good examples of the notion of ‘Neue Kombinationen’ as Joseph Schumpeter once proposed in 1934.

## **The creative industry and cross-innovation infrastructure in Amsterdam**

*General*

The Dutch government has assigned the creative industry as one of the so-called ‘top-industries’. These top industries are regarded as the most important industries for the Netherlands, that is, industries that should become more innovative in the future and become ‘core businesses’ of the Dutch economy. These industries get additional funding from the government and various innovation projects between organizations from these industries and various knowledge institutes are currently being set up. The top-industry ‘Creative industry’ does not only focus on the industry itself but also tries to connect to other (top-)industries, making these industries more innovative and trying to convince them that they can profit from the skills and knowledge of the creative industries (Federation Dutch Creative Industries, 2013). Unfortunately, that is from an innovation-policy perspective, they do this mainly by providing (inspiring) examples of *cross-innovations* instead of providing clear-cut policy recommendations.

Nevertheless, the creative industry is still being regarded by many business people and organizations as a ‘strange’ industry. Often the added value of this industry, its high variety of companies, its low degree of organization, its low dependence on R&D and fundamental research, and the average small size of these companies gives this industry, to many, an immature image (Interview with Valerie Frissen). In addition, this image also prevents this

industry to be seen as an industry with which other industries can cooperate and improve their innovativeness, as noted by one of the heads of the creative industry (Interview with Valerie Frissen). However, this industry has shown in the Netherlands, especially compared to other industries, a significant (relative) growth in terms of jobs, the establishment of new companies, and, less significantly turnover in the period 2008-2011 (Rutten, Koops & Nieuwenhuis, 2012). With regard to the worsening of the creative industry in these terms in the last two years (2012-2013), mainly due to the economic and financial crisis which seems to last longer in the Netherlands than in comparable European countries (such as Belgium and Germany), we note that the average turnover per employee in the creative industry is lower than in many other industries. But this can mainly be explained by the labour-intensive character of the creative industry. In addition, with regard to the growth of the number of companies we see that the creative industry has a significantly higher growth than other industries. Within the creative industry, 'media and entertainment' and 'creative business services' are the most dominant domains.

If we look at the size of the creative industry in Amsterdam we see the same trend, although the numbers are of course a bit smaller. In 2012, 53,041 people were employed in this industry, with 26,236 locations, and with a turnover (added value) of 1,366 Billion € in 2008 (Amsterdam 2012). All these three variables show an increase over the last year so that we can conclude that the creative industry is increasing in Amsterdam, just as in the Netherlands as a whole, although the current economic crisis is slowing down things a bit. A recent study into the creative industry in Amsterdam underlines the above mentioned points and concludes that Amsterdam is indeed the most important 'creative hub' in the Netherlands, in particular design, digital media, fashions, and advertisement, that the level of employment has increased more than the total creative industry in terms of turnover, that the economic crisis has impact, that there is increasing flexibility and digitalization, and, lastly, that sustainability is becoming more and more important (Amsterdam, 2013).

### *Specific*

Policies on the creativity industries and issues and activities in Amsterdam related to this industry are quite various. From an overview made by the city of Amsterdam (Amsterdam 2012) we can conclude that of the 11 policies taken into account, only three did not address the issue of crossovers (or cross-innovations). So, we can conclude that cross-innovations are definitely part of the innovation policy-agenda of Amsterdam. Below we analyze the 'cross-innovation'-infrastructure of Amsterdam on four aspects: brokerage (between industries), finance, cultural, and spaces.

### *Brokerage*

An open minded culture, together with a heterogeneous economy ensures that different industries are able to connect with each other. The Amsterdam Economic Board (part of the municipality of Amsterdam) has an important task in this connection process since it serves seven different industries and stimulates those to cooperate. Just as information and communication technology can cross-innovation be regarded as an industry that squares other industries. This means that cross-innovation is not limited to connecting the creative industry to just one industry but to, in principle, any industry, and that the creative industry will be in many cases not be just a supplier but a partner or co-creator.

*Finance*

Amsterdam has a big financial centre but the current economic and financial crisis is having a severe impact on this industry. Several banks have downsized their activities and their working staff and the amount of credit provided to business, especially SMEs, has decreased tremendously. As a result the economy is slowing down and, at the same time, entrepreneurs and SMEs are looking for alternative ways to finance their business development projects. Crowdfunding, the practice of funding a project or venture by raising many small amounts of money from a large number of people, typically via the Internet, is, perhaps, therefore a means that is becoming increasingly popular to use to collect credit to finance your business activities. In a recent study by Douw&Koren and Motivaction (October 2013) about how citizens think about the potential of crowdfunding, it showed that 57% of the respondents consider crowdfunding as a good alternative to financing by banks, 46% consider crowdfunding as supportive to the restoration of trust (confidence) in our economy, and 45% holds the opinion that the government should stimulate crowdfunding initiatives. According to another report by Douw&Koren for the Ministry of Economic Affairs in 2012 11.4 million Euros was raised by crowdfunding and for 2015 it was predicted that this amount of money will grow to 250 million euro. Also from a more qualitative perspective it appears that crowdfunding will have a prominent position in the financial landscape. A report by VNIU refers to the slogan 'Everyone should become a banker' and provides many examples of crowdfunding platforms. In addition they see the crowdfunding-trend as part of a wider change in the financial landscape including the rise of complementary currencies and other peer-to-peer services (like car renting and car sharing) (VNIU, 2012).

*Cultural*

With culture we refer to all concrete artistic activities that people and organizations carry out within an institutional context. Activities such as sport and private artistic activities (e.g., playing piano at home) are not included. Amsterdam has always been the cultural capital of the Netherlands. It is an important historical explanation for why the creative industry is so large as compared to other cities or regions in the Netherlands. Nevertheless, despite the many initiatives in the cultural sector it is not necessary the case that these initiatives are naturally followed by new initiatives with regard to cross-innovations. Of course, the cultural sector can establish a 'climate' in which people get inspired and get creative and are willing to set up new creative businesses. But one should be aware that this linkage is difficult to prove. Especially with regard to the evaluation of innovation policies in general and cross-innovation policies in particular, investments in the cultural sector are difficult to link to innovation and therefore receive a lot of criticism from those involved with defending and promoting commercial interests. The creative industry can play a vital role in defending the use and necessity of the cultural industry, not only from a cultural perspective but also from a cross-innovation perspective since entrepreneurs are convinced that a lively cultural sector is important for their industry and for the overall well-being of the city they live in and in which they want to do business.

*Spaces*

Amsterdam has initiated quite a lot of policy-initiatives on this issue (see Bureau Broedplaatsen, 2012). A reason could be that it might be the most easy, direct and visible way to stimulate companies and entrepreneurs to set up cross-innovation initiatives. From the innovation policy related documents we have read we have the feeling that this type of policy has reached its saturation point. That is, the provision of spaces for creative entrepreneurs is mainly organized by commercial companies meaning that they have more or less taken over the role of Amsterdam. Nevertheless, the current economic crises and its bad consequences for the real estate industry in Amsterdam can lead to Amsterdam taking up again a more extensive role in this field of policy.

**Lessons learned for Amsterdam from other European cities**

Within the INTERREG-project we visited three cities (Tallinn, Warsaw, and Lisbon) to learn about what might work and what might not work in Amsterdam. We visited various incubators and other 'creative places' where cross-innovations were initiated and we spoke to entrepreneurs and policy-makers. Below is a summary of our lessons learned.

*Tallinn*

- Visiting an exhibition about famous Estonian astronomers and other special products from Estonia taught us that showing national products is not a regrettable nationalistic attitude (as it is in the Netherlands), but a smart way to expose your skills and knowledge to other people while entertaining them at the same time.
- An incubator aimed at design-companies would be more than welcome in Amsterdam if, however, sufficient attention is paid to promoting cooperation between the different startups.
- The Enterprise Estonian-project<sup>1</sup> showed us that these types of innovation programs can also be outsourced to external organizations instead of being carried out by local government themselves. Furthermore, it is focused more on entrepreneurs than Dutch government-innovation programs which are more focused on large companies and industries.
- A potential conflict between artists and entrepreneurs can take place since artists prefer their artistic freedom above possible commercial interests. Many artists will not oppose if their artistic 'products' are also valuable for commercial organizations but if that means that their work will only be acceptable under these terms, they will be not be willing to cooperate in the future. Indeed, we think that artists will have a greater commercial benefit if they keep their artistic freedom.

*Warsaw*

- Having no governmental or legal rules within a designated (physical) 'creative area' (as we visited in Warsaw) can very much contribute to all kinds of spontaneous entrepre-

neurial initiatives. Nevertheless, despite the spontaneous nature of this project, we think that at a certain point they need a future vision to make sure that the growth of this area will be sustainable.

- To us it was important to note that the situation in Warsaw is quite different from Amsterdam in that Warsaw is by far the most important economic region of Poland, whereas in the Netherlands there are various important economic regions next to Amsterdam (such as Rotterdam, Eindhoven, and Utrecht). This means that in Warsaw more resources and funding are available and the links between the national government and the municipality are shorter and easier to realize.

#### *Lisbon*

- Defining a business idea is not the most difficult part but to develop and implement a viable business model is the greatest challenge. Local innovation policy should therefore devote more attention to this aspect.
- Between the creative industry and other industries there are differences in terms of the 'business language', types of knowledge, and how to approach customers. For instance, the creative industry has difficulties in 'proving' how to make money and therefore it is extremely difficult to get sufficient financial support of banks who think in old-fashioned business models.
- The creative industry can play an important role in the development of 'creative cities', shifting the focus from (boring) techno-parks to creative cities in which people find it both very pleasant to work and live.

### **Findings and recommendations for the Amsterdam-region**

Based on our interviews, city-visits, an expert-workshop, and analysing relevant policy documents we formulate seven recommendations for improving innovation policy within the Amsterdam region with regard to initiating and developing creativity-sector-based cross-innovation.

- 1 Cross-innovation really needs to be defined as *innovation*, meaning that we only speak about cross-innovation if cross-innovation types of products and services are implemented into the market. For governmental policy this means that the success rate of cross-innovation policies can be measured by, for instance, the amount of implemented cross-innovations supported by the local government. This means a significant shift from an input-based policy (with indicators such as the amount of companies that have been linked with each other (*matchmaking*) to output-based policy.
- 2 If we adopt this definition of cross-innovation with an emphasis on implementation, we also advise *to shift the focus and the accompanying innovation policy resources* (e.g., money, man power) more to the later phases of the cross-innovation process (Workshop Amsterdam Economic Board, 2013). In the first phases of the cross-innovation process, the so-called 'ideation'-phase the main activities are finding potential business partners, brainstorming, defining innovating cross-innovation concepts, and building prototypes.

Although the first phases are not easy, in general they require fewer resources than the latter phases of the cross-innovation process where the activities are more focused on doing pilots and working on the actual implementation of the cross-innovation. However, the further companies go into the cross-innovation process, the closer they get to the moment of (market) implementation, the more resources and support they need. However, currently, most of the innovation policy resources are devoted to the first phases of the cross-innovation process where cross-innovation initiatives by various companies do not need much support as opposed to the latter phases where, as just has been stated, more efforts are required.

- 3 Due to the economic and financial crisis the Amsterdam-region has less budget for developing and implementing innovation policies, despite the acknowledged importance of (cross-) innovation for promoting economic growth. *We recommend focusing the required limited policy efforts on those cross-innovation initiatives that not only are interesting from a commercial perspective but also address a societal goal.* By this, we prevent that the benefits of too many cross-innovation initiatives accrue only to a limited set of people (those involved in the development of the cross-innovation) instead of to a larger community. In doing this, we address two problems at the same time: lower economic growth and increasing societal problems. To do this, the Amsterdam-region can use the ‘grand challenges’ as they have been described in the Lund-declaration. For these challenges to be applicable to the Amsterdam-region these (international) challenges need to be redefined on a geographical scale that is in line with the Amsterdam-region. Furthermore, it will probably show that certain grand challenges do not directly apply to the Amsterdam-region, regardless of on which scale these are defined. In particular we advise the city of Amsterdam to incorporate these societal demands and challenges in the development of the Amsterdam Metropolitan Solutions Institute (AMS). The goal of this new initiative is to use applied technology for addressing city-specific goals thereby strengthening the innovative and economic power of Amsterdam and its region. By asking potential partners to incorporate these grand challenges in their research plans the specific societal problems and issues are addressed as well. However, to assess these plans on this aspect the city of Amsterdam should translate the ‘grand challenges’ into local challenges or demands. That is, the grand challenges are currently defined at a global scale and to be applicable to the local situation in Amsterdam they must be formulated at a more specific level of detail. Moreover, it has to be determined which grand challenges are the most relevant to the specific situation in Amsterdam. Nevertheless, during a few workshops with participants from the city of Amsterdam and related organizations involved with innovation, it was suggested that using the grand challenges as a starting point for cross-innovation might be too narrow and as a result certain innovation opportunities will not be spotted (Workshop Amsterdam Economic Board, 2013). This concern of missing opportunities is based on the (correct) notion that (cross-) innovation processes are inherently uncertain. Therefore, innovation policy-makers at the city of Amsterdam should balance the need for focus of the innovation policies with the possible unexpected outcomes of innovation processes and that might not be entirely within that predefined focus. Another consideration on this issue, that might sharpen the focus of the innovation policy, is to concentrate on those grand challenges that connect to your economic and innovative strengths (Interview with Dany Jacobs).

- 4 To overcome the negative influence of the polarization of the innovation policy in the Amsterdam-region *we suggest considering cross-innovation as a sector in itself*. As a sector that is diametrically opposed to the other top-industries. As such, the creative industry can show its added value to other industries by facilitating initiatives between industries (see also Economic Development Board Amsterdam, March 2011). For this, the creative industry must also communicate to both industries and the Dutch national government that ‘real’ innovation often takes place at the crossroads of different industries. The creative industry can help these industries both from a process-side (by facilitating these innovation processes) and a content-side (by providing good, fresh ideas and creativity-related technologies, such as gaming-technology). As such the creative industry can help those industries that have difficulties in becoming more innovative. Be aware that it is not only a matter of connecting the creative industry to the ‘traditional’ industries, but also, or perhaps more, the other way around (Workshop Amsterdam Economic Board, 2013; Interview with Edwin Oskam).
- 5 *Cross-innovation can also be a way for the creative industry to address the problem of finding financial support for their innovation activities*. That is, it shows that the financial industry still finds it difficult to understand the business of the creative industry and to assess its potential economic and financial value. Innovation alliances between companies from the creative industry and companies from other industries can give creative companies better and easier access to financial capital because companies from non-creative industries are more trustworthy than creative companies. Financial institutions have experience in doing business with traditional industries and find the creative industry too risky to provide quick and easy access to their capital.
- 6 If the city of Amsterdam has the true ambition to promote cross-innovations by linking the creative industry with other industries, *it should also pay attentions to ‘creative workers’*. According to a study done by Lee & Rodriquez-Pose (Lee & Rodriquez-Pose, 2013) governmental innovation policy should aim much more on ‘creative workers’ than on the creative industry itself. That is, creative workers are not only to be found in the creative industry itself, but also in other industries in which various employees carry out ‘creative tasks’. By just focusing on the creative industry, the cross-innovation policy in particular and the policy focused on the creative industry in general of Amsterdam would not be directed fully to the right recipients. Strengthening the creative industry would therefore also mean focusing on creative workers in other industries. In addition, according to the study by Lee & Rodriquez-Pose, a strong relation can be found to the presence and amount of ‘creative workers’ and the level of innovation in that industry. This link is even stronger than between the creative industry and innovation.
- 7 Besides the role of the creative industry as juxtaposed to other economic industries (sectors), the creative industry can also be positioned between the cultural sector and economic industries such as finance, retail, informatics, logistics, and food. As such, the creative industry functions as an intermediary translating the insights and productions from the cultural domain into possible new business ideas not only for its own industry but especially for the other economic industries. An almost direct and linear line can be drawn from the cultural domain, through the creative industry to the other economic industries. It would be tempting to reverse this line and ask economic industries what they would like to have for business opportunities and on the basis of that the creative

industry could approach the cultural sector. But we don't think that this would be a wise strategy because this would endanger the 'artistic freedom'. And it is this artistic freedom by which the 'cultural expert' can show its added value to the creative and other industries. Just like how the 'scientific freedom' of scientists can add value to innovation businesses because scientists have all the freedom and independence to think about new and fundamental research. Too much influence on their scientific agenda means that their output does not lead to radical innovations but merely to incremental innovations.

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**Notes on the interviewees**

- Interview with Valerie Frissen (TNO, professor at Erasmus University, member board Top-sector Creative Industry).
- Interview with Dany Jacobs (full professor at the University of Amsterdam and associate professor at the professional universities of Arnhem and Nijmegen).
- Interview with Edwin Oskam (civil servant at the city of Amsterdam, responsible for the coordination of activities regarding knowledge and innovation, human capital, and international connectivity, as well as for the articulation of the strategic direction of the Amsterdam Economic Board).
- Interview with Marike ter Linden (civil servant city of Amsterdam, responsible for managing the portfolio of innovation projects).
- Interview with Rens Bod (Professor of Computational and Digital Humanities, Director of Center for Digital Humanities, Head Language and Computation Group, Vice-director ILLC, University of Amsterdam).

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