ROAD MAP FOR LINKING CCI TO AVM

Deliverable D.T1.3.2 | **Version 2**

Università Ca' Foscari Venezia

11/2020

ROAD MAP FOR LINKING CCI TO AVM

CONNECTING TWO WORLDS

We believe that cultural and creative industries in Central Europe have a high potential to link up with other industry sectors and boost economic and social development by empowering innovation processes with creative inputs.

In a transnational cooperation collider network, COCO4CCI connects the best of two worlds - the open mindset and innovative approaches of the cultural and creative industries (CCI) and the experiences and technology driven power of advanced manufacturing industries (AVM).

What's your challenge?

COCO4CCI addresses companies and individuals looking for answers to the following questions:

CCI

- How do I get involved in challenging projects?
- Where can I get access to new technologies and materials?
- Who is interested in my know-how, designs and ideas?
- How do I sustain my creative business in the future?
- Where can I learn from other experts at eye level?
- Where do I connect with open-minded people like me?

AVM

- How can we survive in a global competition?
- Which tactics are appropriate to cope with digitalisation?
- How can we develop concepts to deal with future challenges?
- How can we optimise and innovate production processes?
- Who can provide us with fresh and innovative ideas?
- Where do we "learn" to open our minds and think out-of-the box?

Index

INTERREG CENTRAL EUROPE

COCO4CCI- COOPERATION COLLIDER FOR CULTURAL AND CREATIVE INDUSTRIES

PARTNERS

BIZ-UP - Austrian partner Business Upper Austria – OÖ Wirtschaftsa gentur GmbH

Bwcon GmbH – German partner

CCIS – Slovenian partner Gospodarsk a zbornica Slovenije

CIKE – Slovak partner Creative Industry Košice

CREARE – Austrian partner Creative Region Linz& Upper Austria Gmbh

CPK – Polish partner Academy of Art in Szczecin

HdM – German partner Hochschule der Medien

RRA LUR – Slovenian partner Regionalna razvojna agencija Ljubljanske urbane regije

SIAV – italian partner Confindustria Veneto SIAV

SBA – Slovak partner Slovak Business Agency

NCC – Polish partner Północna Izba Gospodarcza w Szczecinie

UNIVE – Italian partner Università Ca' Foscari Venezia

COCO4CCI Project Partners	Abbreviation	Country
1 - Gospodarsk a zbornica Slovenije	CCIS	SLOVENIA
2 Business Upper Austria – OÖ Wirtschaftsa gentur GmbH	BIZ-UP	AUSTRIA
3 - Creative Region Linz& Upper Austria Gmbh	CREARE	AUSTRIA
4 - Creative Industry Košice, n.o.	CIKE	SLOVAKIA
5 - Regionalna razvojna agencija Ljubljanske urbane regije	RRA LUR	SLOVENIA
6 - Bwcon GmbH	bwcon	GERMANY
7 - Slovenská podnikateľsk á agentúra	SBA	SLOVAKIA
8 - Università Ca' Foscari Venezia	UNIVE	ITALY
9 - Hochschule der Medien	HdM	GERMANY
10- Confindustria Veneto SIAV S.p.A.	SIAV	ITALY
11- Północna Izba Gospodarcza w Szczecinie	NCC	POLAND
12-Akademia Sztuki w Szczecinie	Academy of Art in Szczecin	POLAND

Table 1. Project Partners COCO4CCI

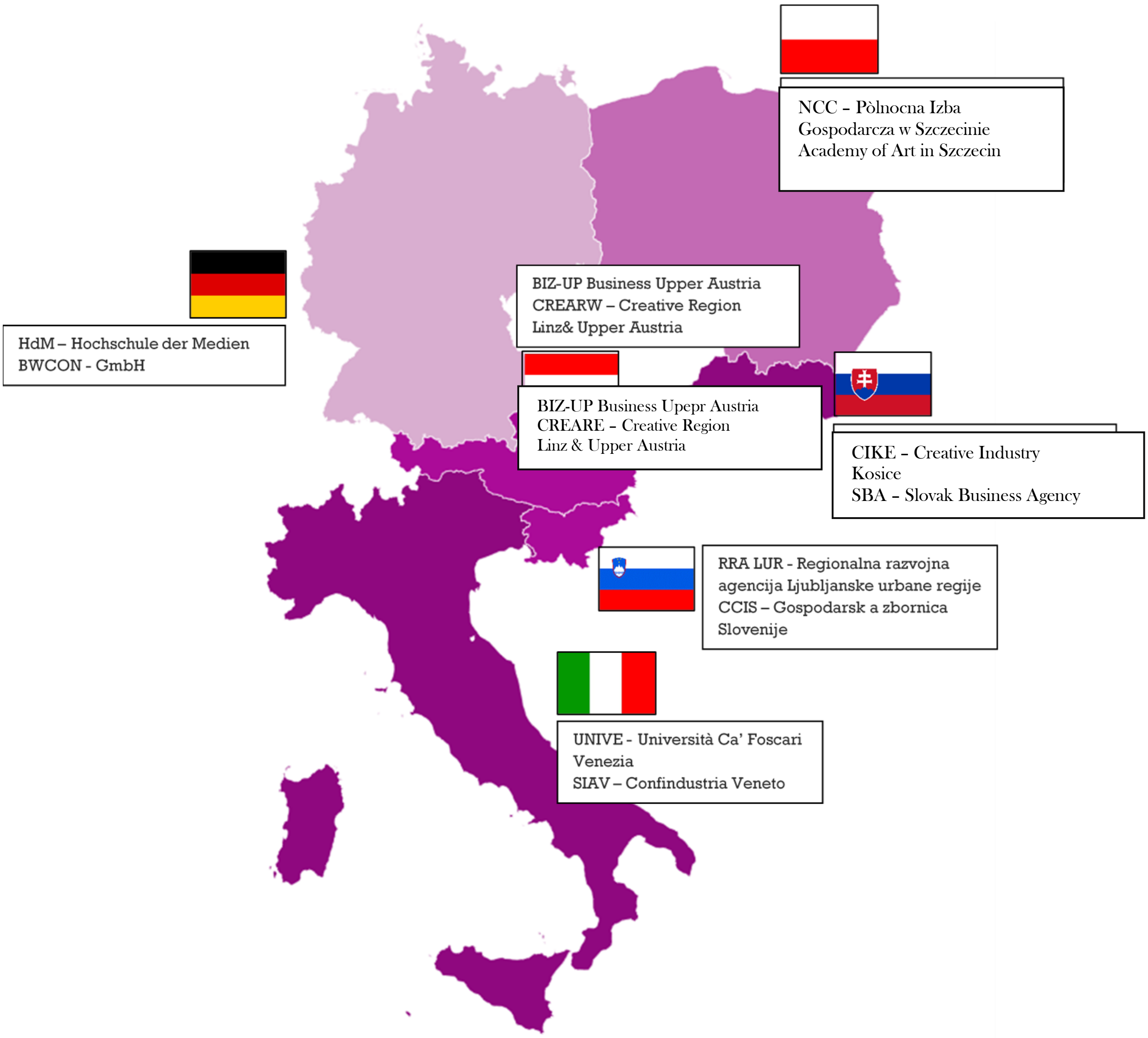


Figure 1. Project Partners COCO4CCI

CONCEPTUALIZATION CULTURAL AND CREATIVE INDUSTRIES		
SYMBOLA Io sono cultura, 2018	CORE CULTURE	Activities of **preservation and enhancement of historical and artistic heritage** (museums, libraries, archives, monuments)
		Non-reproducible activities of cultural goods and services, defined as performing arts and visual arts, synthesized with everything that revolves around live shows (theatres, concerts, etc.).
		Activities related to the production of cultural goods and services according to the logic of industrial repeatability, defined as cultural industries (cinema, radio - TV; video games and software; automation, publishing and printing; music);
		Creative industries related to the world of services (advertising, communication, architecture and design, crafts).
	CREATIVE DRIVEN	Activities that use cultural and creative content and skills to increase the value of their products. For ex. Fashion, Furniture, Agribusiness etc.

Table 3. CCI Conceptualization, Symbola

Symbola's conceptualization of CCI is considered as the more appropriated to the goal of COCO4CCI programme to build a Cooperation Collider between CCI and Advanced Manufacturing Industries (AVM), especially for its definition of creative-driven industries. Symbola Creative-driven definition is 'the activities that use cultural and creative content and skills to increase the value of their products'. This definition seems to perfectly fit into a new innovative understanding of CCI especially related to cooperation experience between CCI and Advanced Manufacturing.

INTRODUCTION - THE ROAD MAP

As a final output of the first working package of COCO4CCI project, the Roadmap summarises conclusions of the transnational mapping and translates them into measures for the development of a CCI cooperation collider network to achieve cross-linking of CCI to AVM. The publication is guidance for COCO & others in creating cross-sectoral collaboration.

CCI represents an extensive economic asset and is a valuable source of creativity and innovation. The main objective of the COCO project is to improve the capacities of cultural and creative industries for cross-sectoral cooperation with Advanced Manufacturing (AVM) by building a transnational CCI cooperation collider network. It promotes cross-sectoral cooperation and strengthens cultural and creative industry resources to become an engine for sustainable growth in Central Europe. Collider is used as a research tool in physics to accelerate particles to very high kinetic energy and let them impact other particles. CCI faces common challenges and opportunities in Central Europe in linking up with technology-oriented industry sectors (AVM). The transnational CCI cooperation collider network will develop tools and training accelerating CCI organisations and enabling them to link-up and cooperate with AVM to foster innovation processes. COCO will bring creative spirit and energy to boost economic growth and make our cities and regions a better place to live and work, thus, is fully in line with the overall programme goal.

Within the activities of the project, this road map represents the backbone and offers preparatory knowledge to undertake the operational actions of the cooperation between CCI and AVM. The road map derives from a careful and detailed analysis of the current status of CCI, its economic indicators, meanings, challenges, and opportunities. The understanding of the CCI state of the art, trends and assets allows us to take a more conscious look at the steps to be taken for its development and growth in the contemporary economy and society.

This road-map is the result of the following activities:

1. The capitalization of existing mappings about CCI within the 6 project partners countries (performed at national and transnational levels).

2. Based on the existing mappings, preparation of a mapping strategy as a guideline to implement the CCI mapping in the partners' regions.

3. Implementation of the mapping activity with desk research and interviews with CCI stakeholders, by following a quadruple helix approach, identification of strengths and opportunities of CCI in the regions to establish sustainable linkages with AVM.

4. Data analysis: quantitative data collection, the codification of the CCI sector, coding of 54 qualitative interviews.

5. Editing of the six (6) regional local reports.

6. Editing of the "Transnational mapping report - positioning of the regions in central Europe".

STRATEGIC TRENDS OF CCI

Key findings

The mapping activity was carried out in six regions of the project since April 2019 and concluded with the Transnational Report in March 2020, offered many quantitative and qualitative data that allowed us to draw useful conclusions to set the road map for linking CCI and AVM.

The study showed that CCI is in a state of perennial movement and change, which is both a cause and a consequence of its fortune but also of its challenges.

From a quantitative point of view, in Europe, CCIs are an important contributor to the economy with 5.3% of the total EU GVA and further 4% of nominal EU GDP generated by the high-end CCI. The total number of companies classified as CCI is 11.2% share of the total number of companies in the business services sector. CCIs also employ more than 12 million people, which is 7.5% of all persons employed in the total economy. Knowledge-intensive, based on individual creativity and talent, they generate huge economic wealth and preserve European identity, culture and values.

Even in the six countries of COCO4CCI, cultural and creative industries demonstrated economic robustness and competitiveness. The final transnational overview of the main economic data related to the CCI in Italy, Slovenia, Slovakia, Poland, Germany, and Austria indicates that this sector has an important role within the national economies. However, much more potential could still be unexpressed.

The economic value of the CCI in terms of the total GDP among the six partners' national economies is 5%, which is perfectly aligned with the European average i.e. 5.3%, as reported by European Parliament's report on EU policy for cultural and creative industries (2016).

The total number of companies classified as CCI in the six partners' national statistical offices is 864.564, which represents the 7,6% of total enterprises. Regarding this data, we observed that the average is considerably lower than the European average, which is 11.2%.

The same consideration is related to the total number of employees working in the CCI, 3.632.714 of people, representing 3,6% of the total of employees within the 6 countries, in contrast to the average of 7.5% in the European Union.

However, considering the data emerged by the existing mapping in PP countries, it was noteworthy to observe that although the number of companies and workers in the CCI in PP countries represent almost half of the European average, the economic value created falls within the same European average of 5%. This could mean that the value created per company and per person in CCI of PP is stronger and more relevant than the European average.

In some projects partners' countries, the CCI sector is facing an annual important growth process revealing new CCI trends and potentials. However, in all regions, the investigation showed trends of growth: the value generated, the number of companies and the number of workers have positive rates of increase in all 6 project partners. The export in CCI has also a relevant role. Due to these indicators, CCIs have proved to be a resilient sector, also in facing an economic and financial crisis, like 2008 one. Despite a backlash in 2009, the overall development of the sector was rather favourable compared with the European economy in general.

KEY FINDINGS

- ✓ CCI within the six partners' countries demonstrated economic robustness and competitiveness.
- ✓ Even if European average for number of CCI enterprises within the total number of enterprises is double with respect to the six project partners countries the value creation in Europe and the 6 PP is equal.
- ✓ The value of the sector, the number of companies and the number of workers have positive rates of increase in all 6 project partners.
- ✓ The export in CCI has a relevant role.
- ✓ Software and videogames, books and press, and advertising are the strongest sectors in the 6 PP, from quantitative data.
- ✓ Cultural heritage and arts and design as architecture and as industrial design are the most strategic sector, from the perception of stakeholders.

TOTAL PARTNERS' GDP

CCI

Economic Value CCI

In total partners' GDP

5%

TOTAL PARTNERS' COUNTRIES

CCI

Total Number of companies in CCI in partners' countries:

864.564

TOTAL PARTNERS' COUNTRIES

CCI

Total Number of employees in CCI in partners' countries:

3.632.714

Key CCI formal codification

CCIs include several subsectors, such as architecture, archives and libraries, artistic crafts, cultural heritage, design, film, music, performing and virtual arts, publishing, radio, television and video games. During the mapping activity, formal codifications of CCI among countries have been compared and analysed. The findings of this process showed that almost all countries use the same codification, through the regional codification deriving from the European NESTA. We can observe below the common CCI economic activities distributed within the Symbola's theoretical framework of Cultural and Creative Industries (p. 7). Among the most relevant sub-sectors, the study detected the sectors of Software and videogames, books and press, and advertising are the strongest sectors in the six PP, from quantitative data. Cultural heritage/arts, design and architecture are the most strategic sector, from the perception of the main stakeholders.

Area#1 is related to activities of preservation and enhancement of historical and artistic heritage.

- Libraries and Archives
- Museums
- Historical sites and monuments managements
- Activities of botanical gardens, zoos, and natural reserves.

The **Area#2** includes non-reproducible activities of cultural goods and services, as performing and visual arts.

- Artistic representation or performing arts
- Artistic creation
- Support activities in performing arts
(logistics, stage designers, make-up artists, etc.)
- Management of artistic structures as theatres and concerts spaces

Area#3 includes activities related to the production of cultural goods according to logic industrial repeatability, defined usually as cultural industries.

- Movies, video and tv production activities
- Tv and radio broadcasting
- Publishing activities of books and journals
- Software and videogames publishing

Area #4 is the core cultural sector that defines creative industry as the world of services related creativity as input, process element or output of the economic activity.

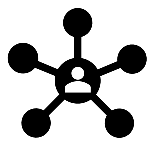
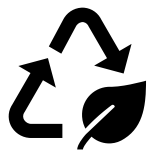
- Architecture and related activities
- Advertising and communication
- Design services
- Photographic activities

Area#5 represents creative-driven industries, which is also the domain useful to define the “cooperation collider” elements between CCI and Advanced Manufacturing Industries. Creative driven are economic activities that use cultural and creative content and skills to increase the value of their products. The first attempt to redefine Area#5 classification has been made by mapping (where available) the presence of CCI typical professional in manufacturing industries. **Only Italy, Slovenia, and Germany could access this data in a public statistical institution, showing respectively designers, architects, and product designers as the most numerous professionals working in non-CCI companies.**

Key meanings

> *“CCI is a fluid sector that must fit very well with the needs of the moment, of the territories, of the entities with which it relates.”*

Fifty-four qualitative interviews with CCI key stakeholders have been conducted to gain a deep insight into trends and assets in the cultural and creative sector among the project partners’ countries.
The analysis and re-elaboration of these interviews together with the considerations of the various existing mappings and literature, lead us to the conclusion that the CCI sector is changing considerably. There is no univocal, clear, and concise definition of CCI. Instead, CCI is an open concept and a transformational meaning which is strongly addressing all scenarios of global change - markets, technologies, ecosystems, internationalization, global vs. local, sustainability and so on.
We report the main domains where this change is taking place, bringing together the words of the most important CCI stakeholders interviewees among the six pp countries and the reflections founded within the existing reports.

KEY DOMAINS ABOUT CULTURAL AND CREATIVE INDUSTRIES				
THE HUMAN SIDE OF INNOVATION	SKILLS & COMPETENCES	DIGITALIZING CCI	THE ECOSYSTEMIC APPROACH	SUSTAINABILITY
				

THE HUMAN SIDE OF INNOVATION

CCI means innovation. This sentence is the resume of many interviewees' answers to the main question on "what is the definition of Cultural and Creative Industries?
Innovation is one of the main trends in all market sectors. Scholars, entrepreneurs and institutions agree with the idea that the contemporary society is characterized by such relevant changes that fall on the market, making companies' ability to innovate and innovate themselves as a must-have and not only a decorative element.
Innovation is defined as "make changes in something established, especially by introducing new methods, ideas, or products". The three main assets which seem to push to innovation are recognized as:

- the change of perception and relationship with consumers, more and more prepared and aware of what they want to consume and how;
- the technological revolution, where digital tools are resetting all the classic production and consumption assets;
- the issues of sustainability and the social impacts of business activities.

The three conceptualizations of innovation are also identified in the two big contemporary issues, more and more interrelated: digital innovation and social innovation. These two different domains are in facts the sectors most in need of **cultural and creative skills to guide innovations**.
The most important innovation has always concerned the ability to understand the human side of change: giving new meanings, symbols, stories and values, answering also to relevant questions as

- Which kind of society are we going to build with technological revolution?
- What innovation means for humans? How humans can drive positive and good changes for societies?
- What is the potential of human creativity to build new imaginaries for the future of humankind?

Digital innovation

Social innovation

SKILLS & COMPETENCES

Some interviewees made statements regarding the nature of the skills and competences of CCI professionals. They stated the existence of two main issues in typical creative and cultural skills. First, the potential expressed by the typical sector's skills in facing innovation and new applications, due to its **openness and flexibility**. Second, the need to extend and create a new encounter with the **creative application**, for example, in technological matter or manufacturing approach. The first point of view expresses one important strength of CCI know-how which is inherent to its creative process. Respondents also stated that some CCIs skills need to be updated and improved, such as those that are circled in the entrepreneurial dimension (Framework of EU "Mapping the Competences of the Cultural-and Creative Sectors", 2015): planning & organizing, entrepreneurial orientation and digital skills. One more important statement about CCI skills and competencies emerged is related to their **intangibility** and the **difficulty of their measurement**.

Table 12. CCI Skills

ENTREPRENEURIAL SKILLS	CREATIVE SKILLS	SOFT SKILLS
Innovative thinking	Manage and promote Brainstorming	Personal management
Cooperation/Teamwork	Techniques of Asking "What-If" Questions	Reliability
Communication	Management of role-playing	Flexibility/adaptability
Problem-solving	Provocation techniques	Writing skills
Sense of initiative	Design-thinking	Communication in other languages
Planning & organizing		
Entrepreneurial Orientation		
Digital skills		
Intellectual property protection		

DIGITALIZING CCI

Even in the case of the diverse "sector" of culture and creativity, many factors which are limiting the unfolding of potential are inherent to the use of digital technologies, especially in terms of infrastructures and competences. Digitalization is starting to introduce more useful tools to carry out virtual scientific reconstructions, to enhance the development of cultural heritage enabling **innovative ways of the fruition of artistic heritage**.

Furthermore, as CCI has the power to tell stories and find new meanings to innovations, there is a massive opening to new opportunities to use digital tools with this goal. In the area of Big Data and Artificial Intelligence, for instance, the most important concern is about how to make creative use of these new tools to reach a real innovative process meaningful for people and businesses. **Big Data must be narrated**, told and be made useful for society.

Finally, **entirely new business models** can be created by bringing together digital tools and creative or designing skills, especially in the field of tourism, food, health, services, etc. Technology and digitalization are offering numerous and big new opportunities for developing new businesses, by combining them with creativity and cultural traditions in unexpected new directions.

ECOSYSTEMIC APPROACH

95% of CCI is made by SME in Europe and the market for cultural products is **highly volatile, dependent on fashion and trends** with uncertainty in demand. This cause an important condition of **fragmentation** which limits the ability of the sectors to organize itself, to walk common paths, to speak with a united voice to defend the interests of independent artists and creators and to improve the general economic and social conditions of the sector.

However, this typical composition of CCI sector could be also seen as a strength if the different “fragments” find a way to connect and to create productive relationship and exchanges while respecting their diversity. The ecosystemic approach emphasizes the **interaction** between the CCI professionals or enterprises and the larger social contexts, observing them as **interrelatedness and interdependency**. In this way, the sector could build a rich superstructure made of fragments deriving from diverse fields, areas and competencies, but creating a unique body. Again, the innovative and digital approach can help in the creation of the ecosystem. **Online platforms**, **business networks** and **hubs** or co-working spaces are already the most used experiences to enable contact and growth of the cultural and creative sector.

SUSTAINABILITY

Culture and creativity are the key elements of the individual, entrepreneurial, institutional and territorial **regeneration processes**.

Social innovation and digital innovation, growing **within the context of Corporate Social Responsibility, show great potential for the growth of sensitive, responsible, and positive business experiences**, characterized by innovative thinking and improvements for environment and societies.

But what can cultural organizations, artists and operators in the sector do to participate in the construction of more sustainable models for development?

Certainly, they can build artistic-cultural systems capable to read the current ecological crisis and the climate change and become a vehicle for solutions to social needs. There are different ways to go along the supply chain of the CCIs on the path to sustainability. First and foremost, we need to find the contribution that the world of art plays through the search for new ideas and meanings aimed at obtaining greater awareness and involvement of civil society. Adress sustainability is urgent, both in the search for possible solutions to social needs and in their implementation within the entire economic system.

INFRASTRUCTURE FOR LINKING CCI TO AVM

“Every company is a cultural good”

The statement mentioned above reports a very clear trend found in several interviews in 6 region’s partners which is appropriately linked to the main objective of COCO4CCI to build a concept of cooperation collider between cultural and creative industries and advanced manufacturing.
The statement “every company is a cultural good” expressed the intrinsic connection between business and cultural process and it leads us to the empowerment that this connection involves.
In the Symbola framework for cultural and creative industries, we made an effort to understand and explain better the last classification area for the CCI (Area#5). It represents an attempt to define creative-driven industries, which is also the most probable domain to define the “cooperation collider” elements between CCI and Advanced Manufacturing Industries in the intuition of the project. Creative driven are economic activities that use cultural and creative content and skills to increase the value of their products.
The most accepted categories related to this definition are, for example, fashion, furniture, agribusiness, and tourism. However, in our understanding, this definition could be re-design and re-build by introducing new innovative and contemporary economic dynamics that characterize AVM and its cultural and innovative processes by including economic activities already heavily involved as:

- **Creative process for new digital tools and datamining**
- **Marketing and communication for manufacturing - value-oriented, storytelling and re-branding**
- **Strategic consultancy for manufacturing - re-design processes, business theatre, business culture, etc.**
- **Servitization**

By definition, creative-driven companies are those companies capable of aligning business aspects with a cultural and/or creative proposal, redefining, and sometimes enhancing their competitive advantage. A possible phenomenon thanks to the interaction, effective, between actors with different abilities and competencies (in primis creative) but also due to receptive organizations, because they are guided by equally creative and visionary leaders, proposing new “mind-sets”.
In this sense, we go beyond the boundaries of the manufacturing organizational context from the “traditional” point of view and try to better understand the unprecedented process in terms of methods and protagonists, which produce the creative tension within the productive ecosystem, within the new constellations of value that support companies.
In an in-depth analysis of Symbola “creative driven” concept, prof. Zurlo (2017) proposes the observation of two trends in creativity, very useful for the approach sought in this report:
“Beyond the boundaries of the organization, we find, not new but unedited in terms of methods and protagonists, a creative tension within the productive ecosystem, in the constellations of value that support companies. In this framework, creative-driven production takes shape in different, sometimes

complementary ways: through original production/distribution outputs or through organizational processes that adopt, at a systemic level, a creative mindset. On the one hand, innovation and creativity go beyond the traditional focus on the product/service, to verticalize, within the organization and in the supply chains of these sectors; on the other hand, we can observe the slow horizontal movement of creativity, as a strategic asset, in sectors that, sometimes with prejudice, we have often perceived as extraneous to this sphere. In this framework, a possible model of reading tends to identify three significant, certainly not exhaustive, trajectories of the phenomena mentioned." (Zurlo, 2017)
The two trends referred to in the Symbola document are the two possible directions to create the cooperative and collaborative links between CCI and AVM that should be pursued.

VERTICAL TREND

Manufacturing companies are asked to rethink their traditional focus on products and services:

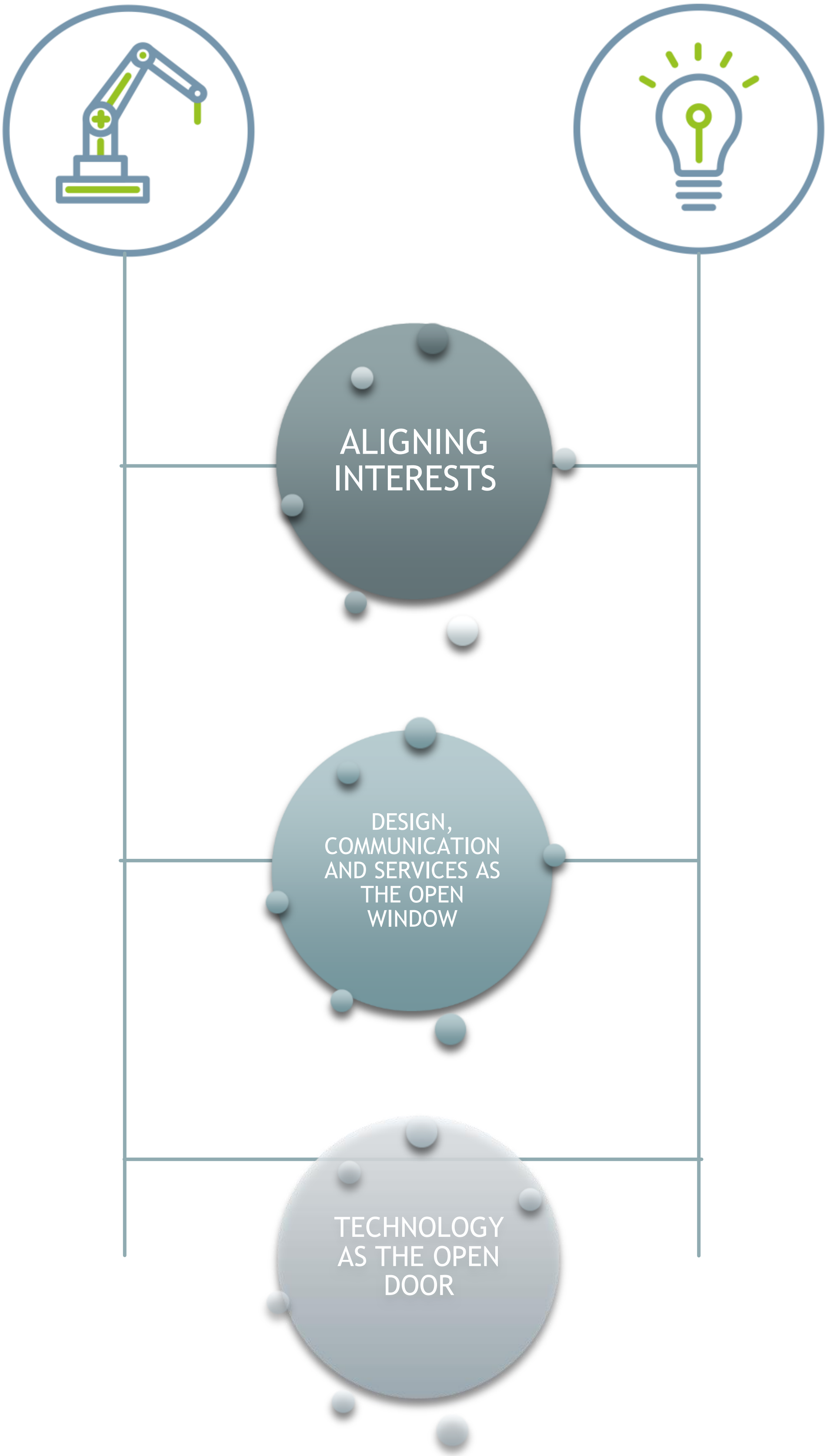
- they need to innovate them overall by giving a new value, which is fundamental to create competitive advantage.
- they need to re-think their product, by creating new services, pre and post-sell relationships, or "servitization" processes
- they need to re-think their brand positioning, creating meaningful products/services/relationships with customers through communication and new narratives.

HORIZONTAL TREND

The slow horizontal movement of creativity, as a strategic asset, in sectors that we have often perceived as extraneous to this sphere, especially technology and digital domain, but also for food and agrifood or tourism.

- This new bridge open a new area of business full of potential.
- Particularly interesting for a cooperation collider concept, the horizontal trend represents the predisposition to create new business models
- New mindsets where culture and creativity are no more enemies of manufacturing logics, but instead, mutually necessary.

In the following section, we will analyze the steps and the conditions needed to reach new shared paths and cooperation between CCI and AVM.


ALIGNING INTERESTS
DESIGN, COMMUNICATION AND SERVICES AS THE OPEN WINDOW
TECHNOLOGY AS THE OPEN DOOR

3.1 Aligning Interests

Cultural and Creative Industries and Advanced Manufacturing Industries must know each other and align their interests and goals.
Many interviews among the six regions of COCO4CCI report a great lack of knowledge from the two distant way of doing business connoting CCI and AVM.
Some stereotypes, partial knowledge or misunderstandings have led the representatives of the two sectors to firmly believe that CCI and AVM have different goals, interests, languages and models.
They seem to think to each other as diametrically incompatible systems. Nevertheless, these declarations are often reasonable and well-motivated through concrete experiences, sometimes they are the result of misunderstanding or lack of knowledge.

STEP 1

CCI is a value, not a cost for AVM

It is difficult to non-CCI companies to understand the economic value of creativity and culture. Most of the stakeholders of the project partner's countries indicated clearly as the biggest challenge for CCI to be understood as a generator of great economic value.
This is partly due to the traditional dichotomy between "tangible" and "intangible" which characterized for a long time "manufacturing" and "creativity" or "business" and "culture". The result of this binary mindset is the tendency of the manufacturing company to give value only to factors related to the core business as "producing goods", while everything not strictly related to physical production is, using the words of the stakeholders, "a loss of time and money", a cost.
Notwithstanding, the contemporary market is pointing to a paradigm shift which takes place substantially in the vertical/horizontal trends.
The vertical trend asks manufacturing companies to rethink their traditional focus on products and services and to innovate by giving them new creative values, uses, functions, symbols. Achieving this goal does not mean developing aesthetic or secondary stratagems, but substantially review the entire value chain to increase competitiveness, market presence and turnover. Culture and creativity become a means to create both symbolic and monetary values.
The horizontal trend of creativity, as a strategic asset, in sectors that we have often perceived as extraneous to this sphere, allows not only to revise the strategic assets of some businesses, but to build new business models with high potential value, both again, symbolic and monetary.
These two possible trajectories are the pillars to rethink the complementary role of CCI and AVM in a contemporary context.

STEP 2

The innovation goal as a common interest

Both the trajectories presented could be the starting point to implement the cooperation between CCI and AVM, as emerged from the mapping activity. The vertical and horizontal trends represent the first attempt to align the supposed different interests and goals.
If CCI use creativity and culture as input, process or output of its economic activity, and AVM use functional, technological and technical aspects to produce goods in a core business model oriented to profit, innovation requires all these elements. They are complementary, mutual and interrelated aspects for the same goal: the success of the business.
Certainly, both CCI and AVM have a lack of competences and resources pertaining to the other system.
Some interviews pointed out how CCI sometimes present a lack of entrepreneurial strategy or

of a clear and scalable business model, while AVM cannot understand which kind of values or narratives its products represent to differentiate themselves and survive in highly competitive markets.
To create opportunities to CCI and AVM understand how the lack of one could be filled by the other, or even to produce new business models, could be the best way to finally create a bridge of common interest between them.

STEP 3
The complementarity of skills

As natural consequences the complementarity between CCI and AVM in creating new innovative business models or added value to existing products, fall also into the need for complementary skills and competencies which correspond to each one.
As mentioned also in the previous section, interviews and other studies about CCI competences revealed the lack of new competences raising from the market challenges. This is also true for AVM experts and professionals, which may not have all the range of creative and cultural or social skills required.
Dichotomic assets are strong in skills definition, even if a shift towards transversal competence is more and more required.
Hard and soft; Technical and creative; Functional and semantical; processual and social; and so on are some distinctions used to refer to different mindsets and competencies.
To create cooperation processes between CCI and AVM a work needs to be done in skills and competences. Observing data collected by the mapping activity, two possible perspectives on it emerge:

- The need for training for both CCI and AVM professionals in transversal competences (the creative in AVM processes and the manufacturers in creative and cultural skills);
- The need to create interdisciplinary teams able to communicate and work for a common goal.

STEP 4
To align languages, creating new mindsets

Creating new transversal skills or new interdisciplinary teamwork lead to the opportunity to think and build within a practical framework the new mindsets required by the cooperation collider conceptualization. New mindsets are intended as new ways people think, interpret, react, cope, expect, process, interact and communicate.
Create new mindsets means to enable people to leave the comfort zone, made of traditional business structures defined by defined role, functional department, routine task implementation and enter into a nonconformist, agile, human-centred design process.
New mindsets require the effort to sharing knowledge and to find all the potential of tacit knowledge which every professional could offer. It also needs to experiment with creative workflows or interactions, by accepting the error and the risk as a normal element to reach innovative outputs.
New mindset is the direct expression of corporate cultural change and CCI experts are the right professionals in this field.

STEP 5
Create opportunities to meet and understand each other

CCI and AVM need to meet and know each other by comparing themselves and work together to reach a common goal, very concrete and practical. Many interviewees pointed out that is of utmost importance to know each other by having a concrete goal and not a theoretical or philosophical one.

3.2 Design, communication and services as the open window

The close link between creativity and economic development was clearly stated in the European Commission Green Paper. Here, creativity is presented as the lifeblood of the knowledge economy and it results in the input of aesthetic processes, design and technological innovations. Creativity also builds true added value to processes and products, improving more than only their functional quality and increasing, at the same time, the business competitiveness.
The effort to understand how cooperation between CCI and AVM could work is facilitated from a suggestion made by the interviewees and also other recent studies. Virtuous practices of innovation are revealing some pioneering process of collaboration, already firmly hired by big and multinational companies.
The first of them is design as re-thinking practice of business strategies to create value. The second one is the definition of servitization as "a process of building revenue streams for manufacturers from services." (Baines et al, 2017). The last one is contained in the business communication area, intended as rebranding or construction of narratives and value proposition within the market. These are recognized as three method or practices which represent perfectly a worthy area for cooperation collider concept.

Design

Design is a key element within CCI processes, regarding not only the specific economic activity (interior design for instance) but widely the method and process which characterize cultural and creative business.
“We are a creative company, because we use creativity and also design, as a business tool. We have an Anglo-Saxon approach on it, where creativity is conceived to create value, an approach less humanistic and more technical, based on the expression of skills typical of creativity which results in design tools.” (COCO stakeholder interviewee)
In this sense, the design represents the skills, the method and the processes used by many professionals of CCI in their value chain.
In the Anglo-Saxon tradition, the design is a much more sophisticated concept compared to the traditional definition in another context, as the Italian one, where design is strictly related especially with the aesthetic dimension, resulting in “formal” and not substantial processes.
Design, in the anglo-Saxon meaning, is specified as an "applied art" – as well as, for example, architecture or photography -; it is distinguished from the "fine arts", the pure arts, like painting, dance or music.
Unlike a common aesthetic quality ("art"), the design is also a necessary component to build “usefulness” that is lacking in the pure arts, which can be "beautiful" without necessarily being "useful".
Design is a practical artistic method which could be applied to products (tables and chairs, precisely, or cars, smartphones etc. But it is also applicable to immaterial objects, such as a website (web design), or processes such as organizational processes or training (instructional design) or human-machine interaction (interaction design). More than a specific area, in short, the design is an approach to so many possible areas, representing the most open and strong potential of CCI methods to contribute to innovative processes and business solutions.
This is especially due to its “technical” conformation, different from pure creativity, which can interface with many different other logics. Design is the ability to plan. Making design means to make a project, to give life to processes to build value, applying to very different contexts and fields.
Not as pure coincidence, interviewees indicated the tool of design thinking as the design process which is already used and understood by AVM.

Services

The second “open window” enabling the collaboration between CCI and AVM is represented by servitization trend. Baines (2017) distinguishes three levels of services that can be offered by manufacturers as a competitive advantage:

Base services – goods and spare parts

Intermediates services – product repairs, maintenance, overhauls, helpdesks, training, condition monitoring

Advanced services – customer support agreements, outcome contracts.

We observe cases, also very well known, in which native digital enterprises have completely revolutionized an entire sector through the servitization, by transforming products and goods into services. The dissemination of digitalization and creative re-design of business models are the two main factors which made it possible.

In the cultural industry sector, many companies became a case study of disruptive innovation through servitization.

The music market experienced a strong crisis due to the shift in consumers behaviour, which began to prefer digital music to CDs. Flexibility and customization were the drivers of this important shift from using material support to downloading digital content. The next step was taken by platforms such as Spotify and Deezer, who explored increasingly innovative methods to the point of forever transforming music from goods to services.

The same process took place in the movie and television entertainment market. Netflix is the platform that revolutionized and changed the way people enjoy and receive visual content thanks to the high level of technology and a new offer strategy, made of services.

Amazon, in addition to the upheaval in the world of distribution and retailing, is moving forward another important and recent trend in the cultural industry. Amazon's Audible marks the transition that many consumers are facing and choosing between reading a book and listening to stories. This new trend is driven by changing lifestyles and the opportunity to enjoy contents in very different ways thanks to customized digital platforms, but also the new creative experiential opportunities.

Certainly, these case studies are the most well-known, but the service revolution in manufacturing industry touches the most diverse areas and becomes more and more open thanks to the combination of technology and creativity. IoT made possible to produce tennis rackets that inform the user about his; urban spaces are crossed by bicycle shared among citizens; etc. All products in all sectors are potential “servitizables”. This is an important area of experimentation and innovation which mix creative techniques, design, new cultural lifestyles and the functional/technical characteristics of manufacturing goods.

Communication

Lastly, communication is another trend which promises good interaction between CCI and AVM. Communication and marketing are anymore the only strategies to analyse market demand and to sell a product, they are getting more and more value-oriented, trying to customize and personalize customers’ needs as much as possible. Communication today is thought through human and value centred approach pervading other strategic processes as business culture, identity and reputation.

The brand becomes the fundamental lever for building a continuous and solid relationship with the market and the stakeholders. The target is increasingly sought out and companies began to communicate to "communities". Branding activity will be even more strongly focused on the social field.

The social and cultural dimension, the ethics of companies, their location in the world, environmental sustainability and so on are increasingly becoming distinctive factors of belonging for the public.

In this sense, communication campaigns are characterized by very creative approaches to:

- new methods and tools: storytelling, social network platform presence, podcasting, use of video, images and art expression in many ways;
- new topics and discussion: social or environmental impacts, political positions, territorial issues, educational dimension, and so on.

This new way to tell the company and to build narratives for a large community, made of different stakeholders, not only customers, is requiring more and more interaction between cultural and creative world and manufacturing.

Digitalization is being pervasive also in this field. Digital marketing and big data related to artificial intelligence power of calculation are opening the way to new important trends and assets.

3.3 Technology as the open door

> *“Technology represents a new world and opportunity for both CCI and manufacturing and they need each other to go to this direction.”*

Digitalization has already made its great entry into societies, lifestyles, markets and businesses.
The first area of penetration of digital technologies concerns improvement of organizational processes, planning and supply-chain to simplify and make more efficient production work. Technology pervades also the offer and characteristic of products, it becomes more and more “servitization”: from owning a product to use the service related to this product. Technology transforms operational production lines, and interaction with – and among - customers.
The biggest concern for every advanced manufacturing company or any company which is developing a digitalization path is to avoid the trivialization of technological tools. The big danger which companies introducing technologies not included in an overall strategy could face is their transformation into useless gadgets unable to provide any added value. Weak organizational digital strategies are a consequence of reduced economic resources and overall of the lack of new mindsets, skills and abilities to manage change to create new values.
In this sense, cultural and creative professionals are more and more required because of their predisposition to understand changes, to build emotional experiences and to drive design processes into real value creation. Interesting pioneering experiences investigated are the new interactions and collaborative teamwork between artists and technology experts.
The observatory of Industry 4.0 of the Politecnico of Milan in Italy indicates the main trends of the digitalization processes in manufacturing production and supply chain processes, and we present them here as possible fields of cooperation between creatives and digital professionals:

Manufacturing Big Data and Industrial Internet of Things
Specialization of methods and tools to process a large amount of data on manufacturing and supply chain management. The data can, therefore, come from IoT systems connected to the production layer (for example sensorized and connected machines), or from the exchange between IT systems for the planning and synchronization of production and logistics flows. Manufacturing Big Data includes the application of new techniques and tools for data analytics & visualization, Simulation and Forecasting, to highlight information hidden in the data and its effective use to support rapid decisions.

Additive Manufacturing (3D printing)
Additive Manufacturing is the set of all technologies and production processes starting from digital models. The use of 3D printers for prototyping - and increasingly frequently for the production of spare parts, for example - is a clear example of additive technology. It starts from a 3D CAD model that is divided into layers by an integrated system (or online) in the printer or in the machine that deposits the materials according to the stratification defined to manufacture the product. In some cases, the use of this production technique is even the only possible solution due to the limitations that traditional techniques have.

Advanced Automation
Many advanced processing techniques and tools are improving production results in terms of quality and time. These include high-speed machining, multi-axis capability, robotics and laser scanning. Productivity has improved, for example, due to the high-quality tools for complex parts, models for reuse and high speed roughing for faster production. At the same time, quality is improved with superior surface finishes, collision check/avoidance and imported surfaces, solid or mesh.

Advanced HMI (Human Machine Interface)
This is the recent development in wearable devices and the new man/machine interfaces, for the acquisition and/or transmission of information in a vocal, visual and tactile format. The Advanced HMI includes well-established systems, such as touch displays or 3D scanners for the acquisition of gestures, and more innovative and bidirectional solutions, such as augmented reality viewers to support operational activities and operator training. Researchers consider devices with a prevalent data acquisition function (e.g. wearable device for measuring environmental and safety parameters) in the Internet of Things basin, and those with innovative components in the interaction between operators and mechanical and IT systems in the Advanced HMI field.

Datamining
The set of techniques and methodologies which have as object the extraction of useful information from large amounts of data through automatic or semi-automatic methods. Datamining is often defined as the new era for creativity.
An interviewee in our mapping activity indicates how professionals in data mining need to be “artists”, or “artisans” in the digital world, able to give images and stories about the world, coming from the digital world, in this case, Big Data world.
The Data Scientist, who is a candidate to be the artist of a new era, must go beyond the surface to see what is hidden behind the data. Digging into the Datamining, their options and possibilities, bringing out an answer, asking new questions: this is the creativity that is needed to drive the potential of Big Data. Technical, cultural and semantic skills are required together with the Data Scientist, giving life to one of the first future professions typically build on transversal knowledge and new mindsets.

These digital trends, applied to products, processes or relationships open a significant world for new ideas, applications, experiences and possibilities in business, for both CCI and AVM. However, to generate real added value requires multidisciplinary and innovative abilities.
One of the most important paths through which cultural and creative industries cooperation with advanced manufacturing could work is through the innovation of business models through digitalization, and this will be the main object for the future work within the COCO4CCI project.

COVID IMPACTS ON CCI: THE PANDEMIC EMERGENCY DURING COCO4CCI PROJECT

Impact of COVID on CCI in Europe

Culture has been considered as a primary source of value creation, urban growth, and development in Europe. Authorities have been harnessing the creative potentials of the cultural and creative sector to attract visitors, talents, investments, and businesses. Several cities have thus positioned culture at the core of their development policies and plan to; achieve goals, create new jobs, foster innovation and new business activities, and bring people closer. Thus, culture has great importance at all levels - European, national and local - to foster social integration, economic innovation, resilience, and competitiveness.

According to a report by the Joint Research Centre (JRC) of the European Commission, at least 190 cities in Europe are dedicated to investing in culture to support urban development. However, with the sudden outbreak of COVID-19, the culture and creative sector, a vital element of the European (EU) economy, has greatly suffered. Along with the tourism industry, the Cultural and Creative Industry (CCI) has been reported among the most affected sector by the COVID-19 pandemic, with creative individuals, workers, and artists struggling for their survival.

To stop the spread of COVID-19 pandemic, initially, confinement measures were taken by several states in the early March 2020 with the particular focus on reducing social contacts and travel bans to prevent the rise of the infection rate. These confinement measures not only halted the global production but also caused the cancellation and postponements of several art and cultural events, concerts, and stage performances, affecting the jobs of more than 7 million people in Europe. Besides this, several shops, theatres, operas, libraries, cultural heritage sites, cinemas, bars, clubs, art galleries, fairs, exhibition, educational institutions, amusement and touristic places, shopping stores, and many other businesses were also closed for public. This asserted strong damage to cultural institutions, industries, and employees, and created a strong economic discomfort.

The earlier confinement measures were planned until the first week of April 2020 but then extended until the 3rd May 2020, based on the pandemic interim assessments in the mid of April 2020. However, starting from the mid of April 2020, countries across Europe started relaxing the restrictions, allowing shops, educational institutions, libraries, and shopping stores to reopen for the public with the practice of additional restrictions and protocols related to health safety and social distancing. While, on the other hand, many cultural events, touristic and heritage sites remained close due to the large public gatherings and health safety concerns. The closure impacted CCI in the following ways.

Loss of revenue sources:

The COVID-19 outbreak affected almost all dimensions of the cultural and creative sector value chain. The closure of cultural places, the substantial reduction of mobility and tourism flows have profoundly affected cultural institutions and businesses and brought a serious social and economic distress to the cultural and creative sector. One of the essential dimensions of CCI that has been derailed completely due to the closure is the prospect of having the public in presence which is a major a revenue source for cultural ad creative sector to cover the operational costs. This posed a threat not only to CCI but also to the companies, employees, numerous freelancers, and volunteer workers of cultural ad creative sector.

Unemployment:

The employment in the cultural and creative sector is particularly vulnerable to the COVID-19 crises because the CCI has: i) high structural fragmentation due to a large number of small and medium enterprises (SMEs), micro-companies, NGOs, freelancers, self-employed, and non-standard or volunteer workers; ii) high reliance on the live events and public-based cultural institutions. Public-based cultural institutions and several companies rely on the independent and interconnected network of micro-companies and freelancers for the production of creative content and services. Due to COVID-19 and confinement restrictions, all the cultural and creative activities have been closed in all over Europe, and this put several jobs at risk offering income loss to many workers that have no access to social benefits and/or other funding sources. According to JRC and Eurostat, in Europe, 32% of workers in CCI are self-employed (e.g. writers, artists, journalists, and musicians), as shown in Figure 1. Given that, the percentage of self-employment is double of the total employment.

Figure1. Self-employed workers in cultural employment and total employment (Source: European Commission, Joint Research Centre, based on 2018 data from Eurostat)

Whereas, in some European countries, the self-employed represent almost half of the employment in the cultural and creative sector, for instance, more than 50% in Austria, Italy and Germany, as shown in Figure 2.

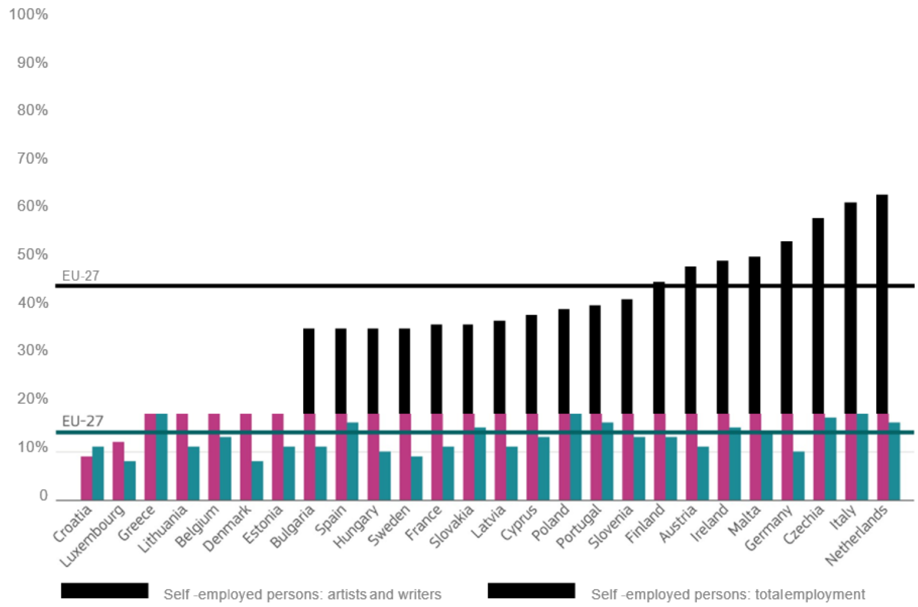


Figure 2. Self-employed persons among artists and writers and in total employment. (Source: European Commission, Joint Research Centre, based on 2018 data from Eurostat)

Most of these self-employed individuals hold project-based contracts, sometimes with a part-time salaried but a second creative job, to make a living. Due to COVID-19 crisis, these workers are at higher risk of losing substantial income and having no access to social or income support and income replacement benefits.

Reduction in private and public funding:

In Europe, the cultural and creative sector has a high reliance on public support than on private one. However, there are number of foundations that have been supporting cultural and creative projects. Recent economic crisis due to COVID-19 has also adversely affected the CCI by causing a considerable reduction in private and public funding, which in turns, has reduced the activities of those organizations that provide support for the cultural and creative sector. The reduction in financial support would lead to the loss of creative skills as creative professionals would abandon their creative jobs and find alternative jobs for their survival. Furthermore, the allocation of public funds for arts and culture is more likely to experience budget pressures which could affect the subsidised part of cultural and creative sector (e.g. galleries, performing arts, and public museums). Moreover, the cancellations of cultural events, festivals, and trade fairs means the loss of investments and sales for many professionals. The reduction in funds, drop-in creative production, investments shocks could lead to the downsizing of CCI which, subsequently, put a negative effect on regions and cities in terms of social and economic impact, cultural diversity and well-being.

Impact on venue-based sector:

The cultural and creative venue-based institutions such as theatres, museums, festival or cinemas, are also affected by confinement and social distancing measures. The confinement and social distancing measures halted the activities of venue-based cultural and creative institutions and put their financial sustainability at risk, affecting both the visitors and staff. According to European NEMO survey, venue-based cultural and creative institutions face the loss of 20,300 euro per week due the closure, travel, and social distancing restrictions. Furthermore, the crisis led to the loss of human capital in the cultural and creative sector. The closure and financial loss significantly affected the wages of staff and their contracts renewals. According to the OECD report, the contracts of 6% temporary staff were terminated during the COVID-19 crisis.

Digitalization:

During the COVID-19 crisis, the cultural and creative sector had the opportunity to take advantage of digitalisation to create new forms of experience and business models. However, only macro-organizations able to use digital technologies to share their work virtually. On the other hand, the micro-companies and the rural heritage sites lag behind to avail the digital opportunities due to lack of necessary digital skills to stay active during the lockdown times. The digitalisation gap between macro and micro-companies could lead to a lack of cultural and heritage content diversity.

Policy recommendations:

- CCI must initiate measures in accordance with national legislation, to protect their staff and workers in the case of unforeseen circumstances. CCI must develop exceptional measures to continue support its employees and workers including the freelancers to compensate their lost income.

- CCI must strengthen the development of strategies on preventive measures to effectively respond to disasters.

- The sector must reserve funds for emergencies and ensure their availability to all cultural and creative organizations to manage the operational mechanisms smoothly during the crises time.

- CCI must create and expand the schemes to collaborate with the other sectors not only for innovation, high-quality services, and better employment but also for the sustainable social and economic development as well as individual and society's wellbeing. COCO4CCI project respond to this need, by offering the opportunity to collaborate and build new bridges between CCI and Advanced Manufacturing Sector.

- CCI should also increase the financial cooperation between public and private sector actors to overcome the budgetary cuts from the public sector and to increase the other types of contributions to ensure the financial aid and survival of many cultural and creative micro-companies and non-profit organizations. Also, the EU must introduce funding programs to support NGOs of the cultural sector as many remained active during the COVID- 19 pandemic. There must also be special financial support for the cultural heritage sector, for instance, exemption of VAT on cultural heritage restoration.

- The culture and creative organizations should also focus on developing digital strategies and digital skills to strengthen the sector for the future. CCI should invest more in recent digital technologies, services, and infrastructure as well as in the employees and workers trainings and capacity building. CCI must prepare itself to promote cultural and creative activities through virtual and digital platforms to sustain and increase the interest and engagement of the community.

4.2 The analysis on Covid Impacts

In order to better understand the phenomenon of the global Coronavirus pandemic of 2020 and its impacts on the stakeholders involved in the COCO4CCI project, as well as the dynamics of the project itself, a dedicated analysis was conducted. The objectives of the analysis were:

- to understand the impacts of the global pandemic on the CCI sector, even though the emergency situation is constantly evolving and the results may not be valid in absolute terms.

- to understand the effects that these impacts will have on future scenarios, in the framework of the COCO4CCI project.

The tools used to carry out the analysis were:

- analysis of existing reports produced by the local institutions of the partner' countries;

- a survey entitled "Survey: covid-19 post-emergency transformation for CCI", conducted between September and October 2020 within the six project partner' countries which collected 49 responses.

Impact of COVID-19 on partners countries - Local reports

We report in this section the data received from countries where investigations on the impacts of Covid on CCI has been carried out by local institutions.

SLOVENIA

In Slovenia, a total of 1521 Slovenian workers from all subfields of the cultural and creative sectors participated in a survey between 6 April and 3 May 2020 produced by Poligon, the Institute for development of creative industries. The COVID-19 crisis has significantly impacted the Slovenian cultural and creative sector workers, which is quite evident from the survey findings.

The findings showed that 31,5 % of workers such as filmmakers and audio/video artists, performance artists, musicians, photographers, and creative tourism workers were forced to stay at home with no work. Out of all, 77 % respondents reported the loss of business in March, April, and May. The business loss for March was averaged 2945 euros, whereas the average amount of projected losses for April and May averaged 5983 euros. In terms of efficiency and productivity, 73,4 % workers reported lower or much lower work efficiency and productivity due to slower work processes online, distress caused by COVID-19, household chores, child care, education, and blurred lines between free and work time. In addition, workers from all subfields of cultural and creative sector expect business to decline by an average of 44 % and the effect of the COVID-19 crisis will be long-term.

In terms of income, only 18,4 % of respondents out of total earned over 1500 euros. Before the crisis, more than one-third of respondents had a net income of 500-1000 euros each month. The most affected workers such as art performers, visual artists, creative craft workers, and landscape architects were found with the lowest income, while workers such as software and videogame developers were found with the highest income. On the other hand, some workers in the cultural and creative sector also made an average of 62 % of their income by selling goods and services to companies or consumers.

The overall impact of COVID-19 on workers in the cultural and creative sector is huge. The cultural and creative sector can be severely jeopardized with the substantial loss of general public and cultural activities and without the state aid and careful policies. It is therefore extremely important that measures to be taken should save cultural and creative sector jobs instead of having to rehabilitate numerous artists as unemployed for considerably more money for not acting soon enough. In addition, instead of reducing local and government funding, incentives should be increased as currently cultural and creative workers account for an extremely low percentage of sources of earning.

GERMANY

The COVID-19 outbreak and related restrictions posed a serious threat to the cultural and creative industries in Germany as companies and self-employed individuals suffered major losses. To understand the impact on employment, a German-wide survey was conducted where more than 6,600 cultural and creative workers participated during the period from 09 March 2020 to 31 March 2020. The survey and the report were promoted by PCI, the network of public funding institutions for the cultural and creative industries in Germany. The respondents' answers provided a broad picture of the economic impact of individual self-employment and micro and small enterprises in the cultural and creative sectors. Based on the responses, the effects can be described in three waves. One thing is already clear: the corona pandemic will have far-reaching and long-term economic effects on cultural and creative industries beyond the economic and financial crisis.

First wave effect: Tens of thousands of cultural and creative workers lost their immediate earning opportunities as the corona pandemic spread. In some companies, the severe liquidity bottleneck will only become apparent in the coming weeks as some of them still receive payments from services already rendered. This is made particularly difficult by the fact that a large part of the current revenue losses cannot be offset by the recovery of the business. Cultural and creative professionals rarely generate sales evenly distributed throughout the year. Current customer projects are suspended by customers and cannot be completed. Order acquisition has stalled for many because important platforms such as festivals and fairs are not taking place. The analogue and digital advertising sector have suffered significant losses. The numerous online offers with live streams bring a (new) visibility for the cultural and creative industries in the short term. In very few cases, however, they lead to a monetarization of new formats and offers, so that even this does not guarantee sufficient cost coverage.

Second wave effect: Unlike the retail trade, tourism and gastronomy, for example, the order situation in the CCIs will not improve in the short term after the general ruling has been revoked, as events take time and a rapid general economic recovery cannot be expected. In the second wave, the "economic and financial crisis effect" will therefore intensify. Companies in client industries will cut their marketing budgets in favour of consolidation - with far-reaching consequences for many cultural and creative industries submarkets. Major events, in particular, have already been cancelled until June without replacements.

Third-wave effect: The loss of revenue downstream of rights exploitation will have a financial impact in 2021 and is expected to continue until 2022. There is a huge backlog of investment in the cultural and creative industries. Profits are being reinvested in new products and services like probably no other sector. Because of the massive losses in turnover, it is already foreseeable that investment funds will be lacking in 2021 if proceeds from contracts and exploitation of rights are not available. The consequences for cultural production as a whole also have negative effects on the development of young artists. For small and medium-sized enterprises, a backlog of investments is also looming on the horizon. The order situation will develop negatively in line with the general economic recession and, due to the close economic interdependence of the submarkets, will affect the entire cultural and creative industry.

SLOVAKIA

Culture and creative industries are among the sectors that were first affected by government measures against the spread of coronavirus. Even before the closure of businesses, stores, etc. (a measure of the ÚVZ of 12.3.2020) the decision of the ÚVZ of 9.3.2020 prohibited the holding of mass demonstrations. Several governmental economic compensatory measures are related only to entities that had to close operations (although organizers of mass events usually do not have operations, still lost revenue since March 10), but subcontractors and other entrepreneurs related to chains of goods and services. A large part of the cultural and creative sector consists of various types of SZČO (freelancers), which participate in almost all activities in the chain of goods and services of most branches of CCI. Tens of thousands of these people, whose professions are often apparently foreign to culture (technical professions, equipment suppliers, service professions and many others) now often have a loss of income of 100%, even though they have to pay fixed costs, taxes and duties and are entitled to state aid. The Creative Industry Forum (CIF) collected data about the CCI and Covid related situation. Below some insights:

- The interruption of the audio-visual segment (film production, audio-visual production, film distribution) amounts to almost 60 million euros. A large part of this interruption is paid for by SZČO and small companies, which are at the basis of a chain of services in the audio-visual sector.

- The Association of Publishers and Booksellers of Slovakia (ZVKS) records a monthly loss in the sale of books for about 4 million euros. At the same time, new publishing projects and distribution are suspended, which has a negative impact on authors, translators and other related professions.

- The Association of Print and Digital Media (ATDM) identifies a drop in advertising revenues in the range of 50-70% and a drop in sales revenues in the range of 30-95% for magazine and online media publishers, the first significant release of journalists took place by the end of March, most of the employees are again SZČO.

- According to data from copyright protection associations (SOZA, Slovgram, OZIS), the music industry records a monthly drop in admissions of 800,000 euros. At the same time, a total royalty deficit of 2.5 million euros is estimated. The measures lead to a fundamental reduction in the revenue of authors, performers, and companies providing related services (only the cancellation of the POHODA festival means a deficit of about 4 million euros).

- According to data from individual media segments, the decline in advertising revenue in April ranges from 50% (television) to 100% (private radio). The total estimate of the turnover deficit for 2020 is 30%, which represents about 90 million euros.

ITALY

In Italy, the research organization affiliated to CDP developed a research on the Covid situation of the CCI sector, the context and the main impacts intitled: “Cultura e Covid-19: Alcuni fatti stilizzati”. The document reports that, during the first weeks of lockdown, there has been seen an acceleration in the enjoyment of digital content and the online audience grew more than 100%. In this context, digital platforms and entertainment content showed particularly brilliant performances, with an increasing diffusion of streaming or Video On Demand offers. It is estimated that in April alone the viewing of films and shows online recorded an increase of 57%. The phenomenon concerns both the "native" digital platforms - such as Netflix, Prime Video, Disney+, Tim Vision - and the digital declinations of italian broadcasters, such as Raiplay, Mediaset Play, Infinity, Dplay, Now Tv. The stock performance of the main groups that hold streaming platforms partly reflects this scenario. With an average stock market contraction of around 25%, the sector sees the giants Amazon, strengthened by Prime Video, Netflix and Alphabet, the proprietary group of Youtube Premium and Chromecast, outperforming the S&P 500 index by 5 to 30 percentage points. The ViacomCBS group, the owner of Showtime and CBS All Access platforms, suffered the biggest loss, almost 70%, probably due to its close ties with the world of sport. Despite the complete closure of the theme parks and the blocking of all new releases planned, the Disney empire instead lost about 15 percentage points. Behind the containment of the collapse could be precisely the Disney+ streaming service that has recently landed on the European continent and that in Italy alone has seen 5 million new users in a few weeks (graph 5).

The CDP report also shows the most immediate effect of the pandemic containment measures on the culture sector was a transfer of all possible components to the virtual channels. The weeks of lockdown saw the proliferation of broad and diverse digital content that accentuated a trend that was already underway, particularly in the audio-visual and music sectors. Social media live broadcasts have multiplied and streaming and Video on Demand platforms have experienced a further acceleration of subscriptions. Even the more traditional segments of the cultural industry - those related to artistic heritage and performing arts - have experienced significant dynamism, with the organization of virtual tours of museums and archaeological sites and the enhancement of live performance video archives. In the most acute phase of the crisis, the main concern of the sector's operators has been to keep alive the relationship with the users of cultural products, exploiting the potential offered by digital technology, which in the meantime has taken on a pervasive role in the daily habits of users. Just as work and the satisfaction of basic needs necessarily had to migrate to the virtual, the entertainment component could only turn to online channels.

However, two fundamental elements, peculiar to the creative and cultural industry, remain:

- on the one hand, the fruition of the good can hardly disregard the component related to direct experience;

- on the other hand, the productions that feed the industry have a significant impact in terms of employment and are characterized by professional profiles at the same time particularly qualified and precarious.

In this context, the strategic factor seems to be the ability to innovate, experimenting with new languages capable of:

- use the online presence not as an end, but as a means to integrate the offer and propose higher quality and value experiences to potential users;

- transform the business model and, consequently, the process of the fruition of activities to create content, products and services that integrate ticketing alone as a source of revenue;

- generate new demand, intercepting the needs of an increasingly segmented market - characterized by different needs and diversified modes of communication - and adopting flexible programming, able to adapt promptly to changes in the reference context. The Italian artistic and cultural sector is characterized by a heritage that generates induced and externalities very significant for the entire national industry. In this context, the conservation, development and enhancement of the excellence that characterize it are a priority objective. Not only for the economic and employment impact but also for the identity value, representative of the country. Beyond the numbers, one cannot but consider how culture is a distinctive feature and a fundamental resource of our country. Around the recovery of the cultural sector will play a lot of the recovery of well-being, quality of life and social cohesion of Italy.

Austria

From the insights given by the report of Compendium of Cultural Policies & Trends, the Austrian Cultural and Creative Industry (CCI) is also seriously wounded by the measures taken to fight the COVID-19 pandemic. The cultural institutions faced a great decline in sales of ticket and rental of venues due to containment measures which lead to the loss of revenues. In addition, COVID-19 crisis posed a serious threat to many cultural operators, freelance artists, and NGOs as many losses their income.

The Austrian government took the lockdown measure to combat and slow down the spread of COVID-19, however, this measure almost completely halted the economic and social life, and directly affected the work of the cultural and creative sector. To understand the consequences of the COVID-19 crisis on the work of Austrian cultural and creative sector, a survey was carried out from March 13th to 17th 2020. Around 300 participants from the company's employees and self-employed in the cultural and creative industry participated in the survey. The results indicated an alarming situation.

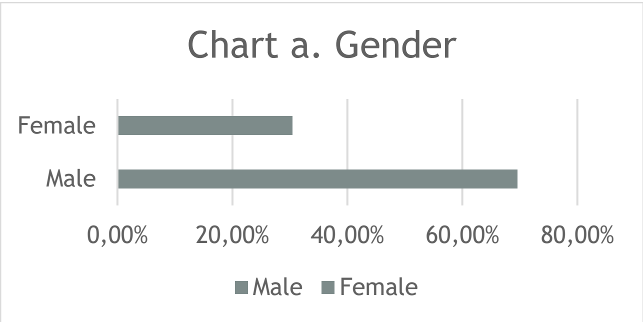
Eight out of ten micro-entrepreneurs expected to lose more than 50 % of their income over the next three months. In case if the COVID crisis stays longer, 2/3 expected to lose more than 50% of their yearly turnover. In terms of economic impact, the COVID-19 crisis could lead to a loss of 3 billion euros in gross annual value-added for the cultural and creative sector in the Austrian market in the long run. The economic impact results due to the cancellation and the postponement of events, trade fairs, travel restrictions, planning uncertainty, markets without replacement, and many other radical changes. The respondents also estimated their financial liquidity and reported its sufficiency for 4-8 weeks. Without appropriate government support and subsidies, the impact of COVID-19 on the CCI will be profound.

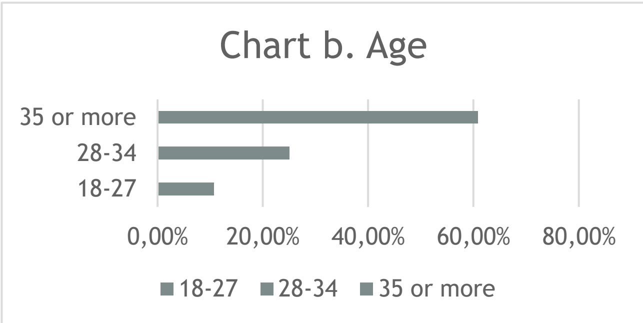
COCO4CCI Survey results: COVID-19 POST-EMERGENCY TRANSFORMATION FOR CCI

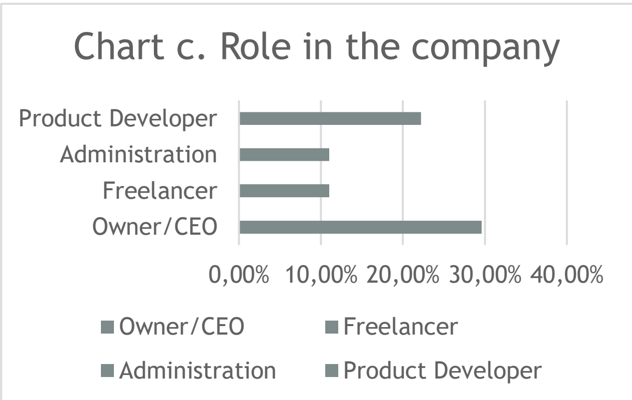
The "Survey: covid-19 post-emergency transformation for CCI" was conducted between September and October 2020 within the six project partner' countries and collected 49 responses among the CCI companies related to the project COCO4CCI. We report the main results which can be useful for the roadmap and the project process.

As shown in the charts a., b. and c., the respondents to the survey were in prevalence the owners of the companies (29%) or product developers (23%), males (69%), over 35 years of age.
All respondents are working within micro or small companies: 100% reported a number of employees under 50 members. This is totally aligned with the European data about dimension of CCI: 95% of CCI is made by SME.

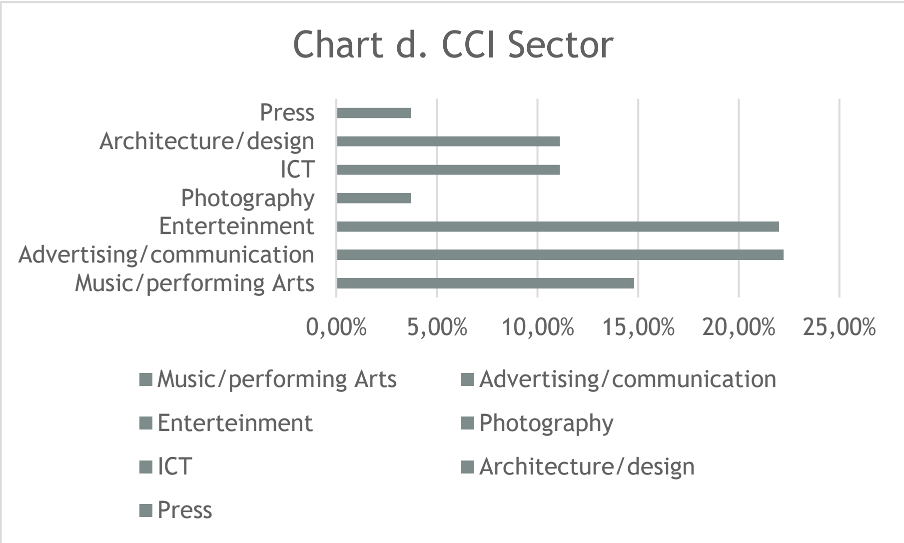
Characteristics of the companies responding to the survey:



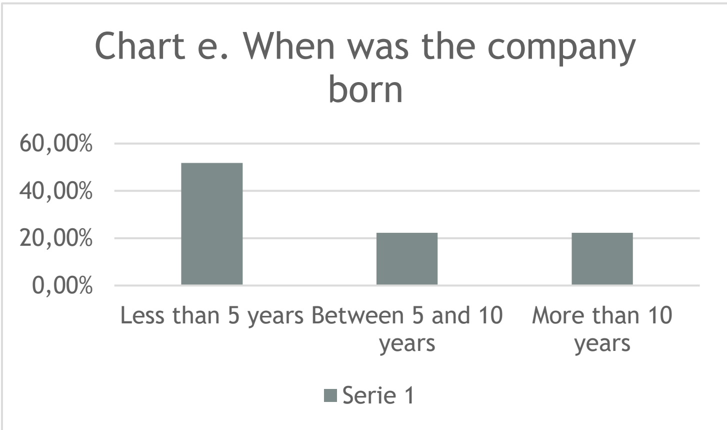




Most of the companies' respondents were part of entertainment and advertising sub-sector (22% and 23%), followed by Music or performing arts (15%), architecture and ICT (11%), press and photography (4%) (Chart d.)

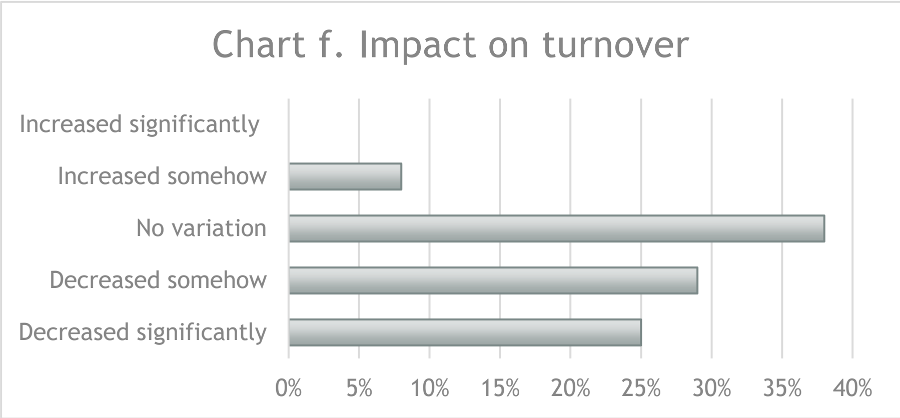


More than 50% of the respondents' companies have less than 5 years of life in the market (Chart e.)



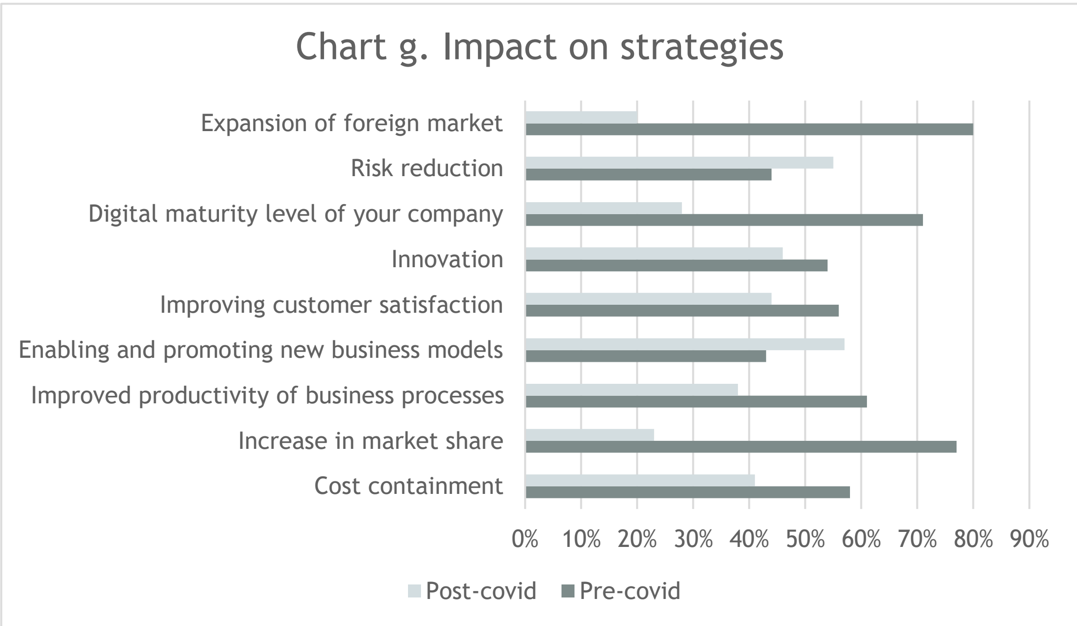
The Chart f. shows that Covid pandemic impacted negatively on turnover about 54% of companies and 25% of them had a significant decrease on it. 38% reported that had no significant variations and only 7% had an increase.

Covid impact on company's turnover



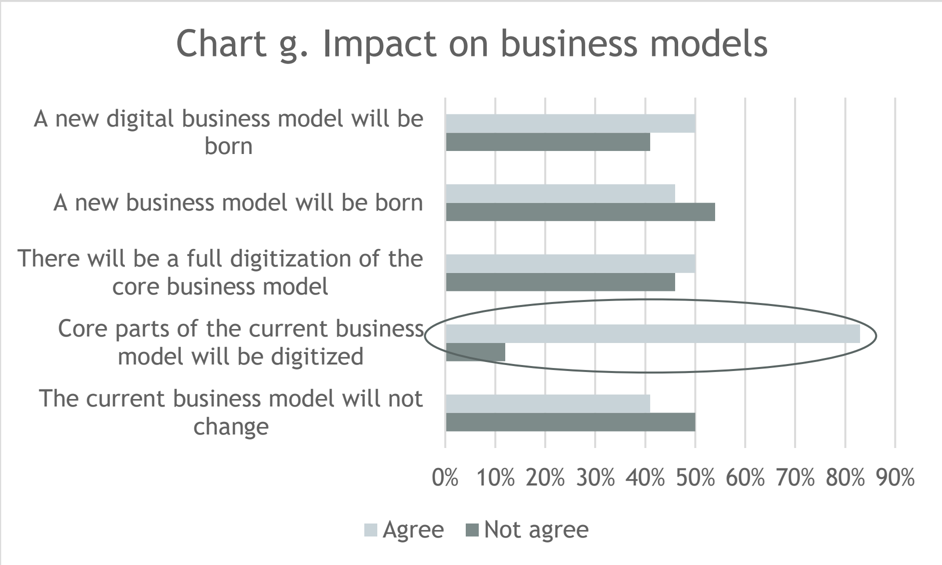
To face the emergency during the 2020 companies needed to change their priorities and strategies very quickly (Chart g). Different market and operational investments have decreased during the pandemic; companies are logically investing more in risk reduction strategies and, quite interesting, in **enabling new business models. This last result represents a key element of future scenarios post-emergency** where COCO4CCI project offer several solutions.

Covid impact on company's strategies



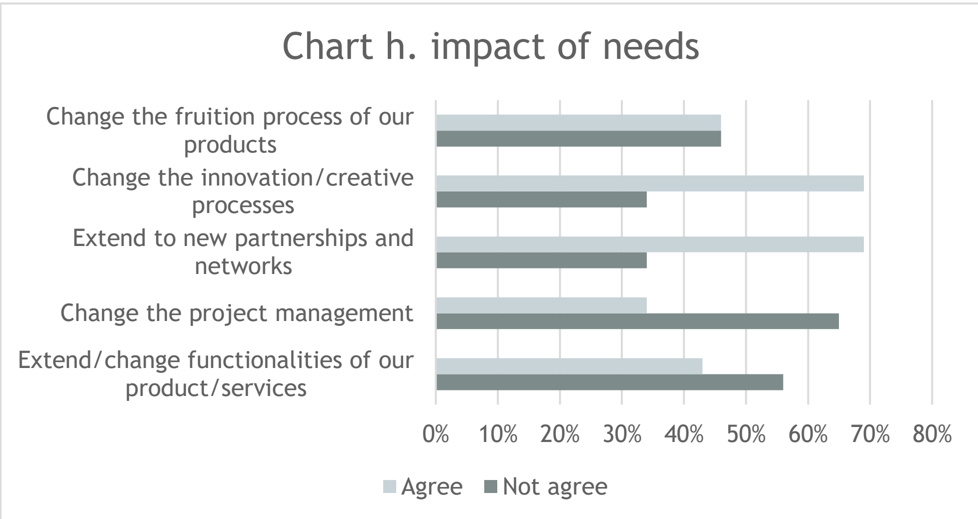
More interesting, 82% of respondents believes that (chart g.), within their main market, core parts of the current business models will be digitized. **The transformation of business models through digitalization is the second key element of the future scenarios post-pandemic**.

Covid impact on company's business models



In Chart h. companies reported that due to Covid they mostly need to change their innovation/creative processes (69%) and create to new partnerships and networks (69%). This aspect is particularly important for the COCO4CCI road map: the project tools can focus more the ecosystemic approach and the network methodology as a strategic issue.

Covid impact on company's needs

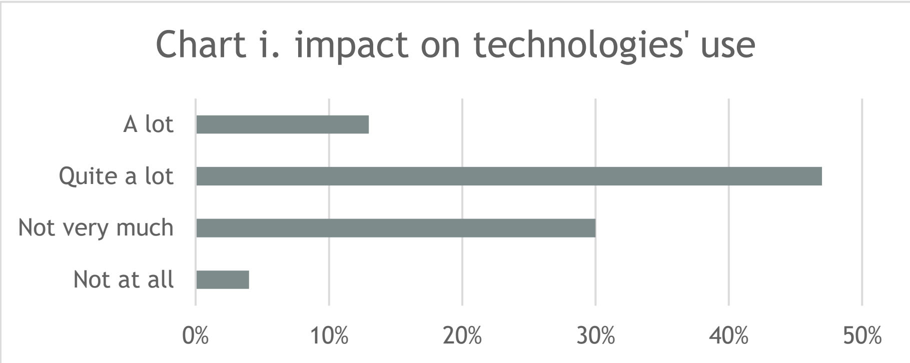


As shown in Chart i., most of companies (47%) think that in the post-pandemic future the company will make a greater use of digital technologies.

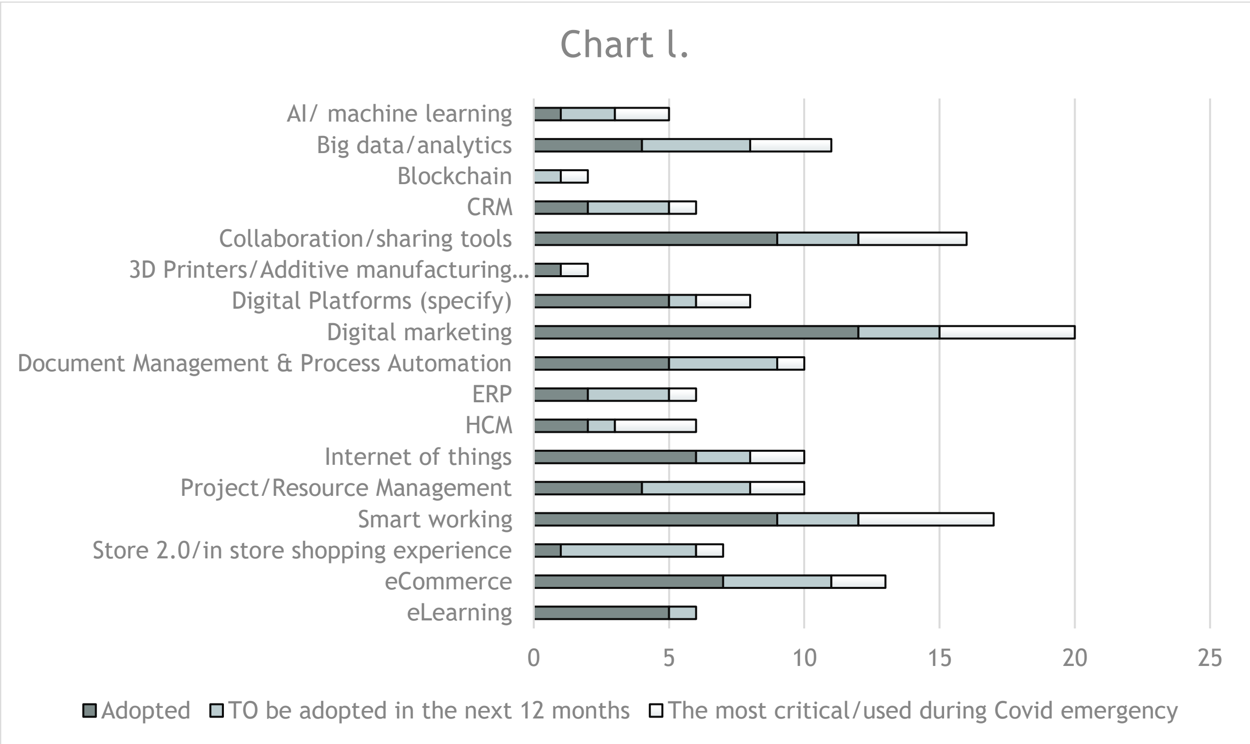
Many companies have already implemented digital tools (Chart l.) as digital marketing, collaboration tools and smartworking. Technologies to be implemented in the next 12 months are: store2.0; big data analytics and document management and process automation. These areas can be analysed more in depth within the COCO4CCI technology related activities and training programme.

Moreover, companies shows (Chart m.) that they believe digital technologies could help them to be more effective in: create engaging customer experiences; immediate and real-time communications and information/documents sharing in real time.

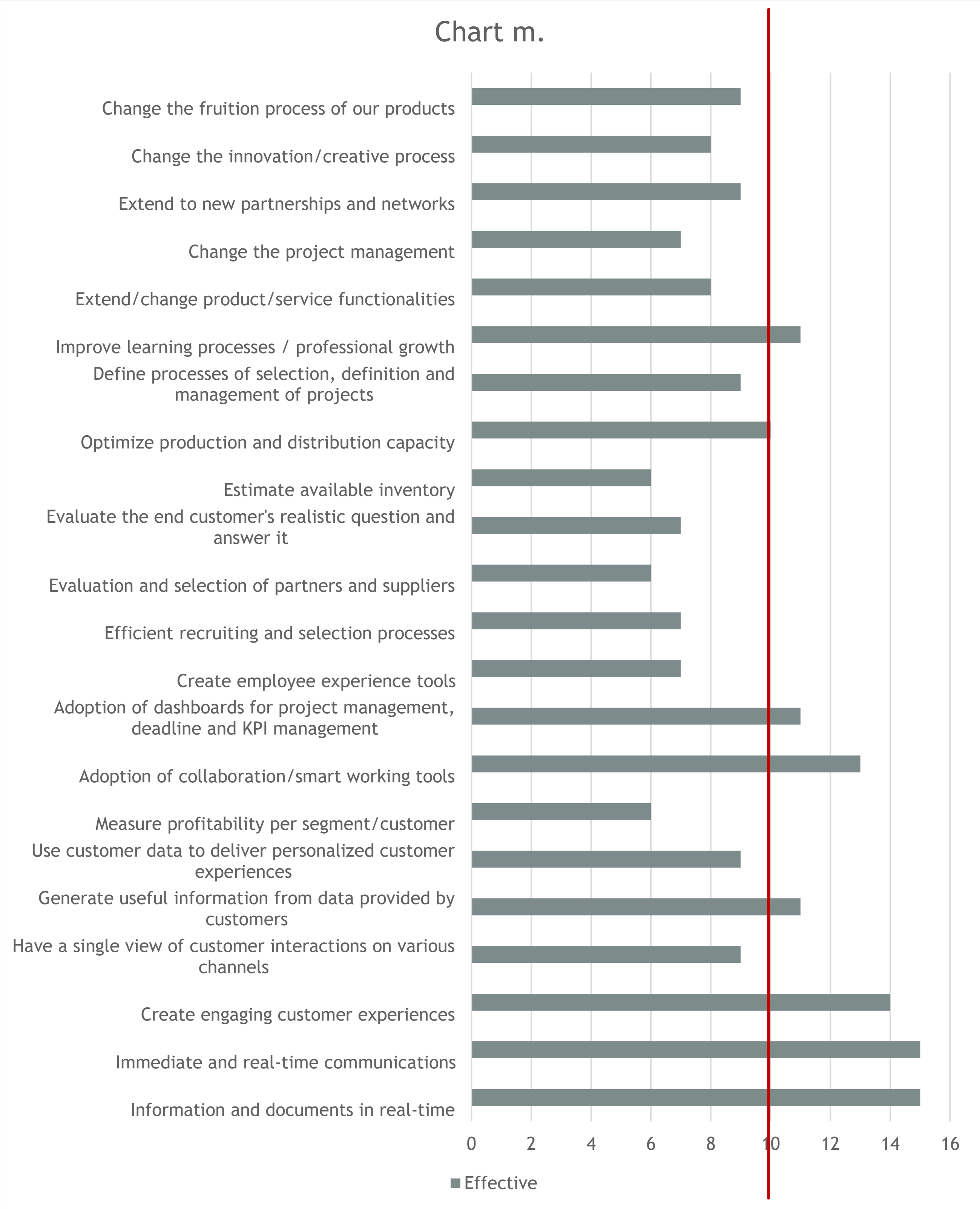
Covid impact on digital technologies' use



Covid impact on digital techonologies' adoption



Technologies can help companies to be more effective in :



The focus on the impacts of covid in business models and strategies/needs and the relationship with technologies helped us better understand the future effects, or perception of them, among the CCIs hard hit by the global pandemic. The ongoing emergency situation does not allow to draw definitive conclusions on the effects of this sudden change in social, economic, political and cultural life in Europe and the world. It will take time and above all a reduction in the pandemic peaks, before we can define how much this experience will change the cultural and creative world and beyond.

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