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Everything you always wanted to know about data for the Cultural and Creative Sector production system, but were afraid to ask: Part 2 – Assembling disparate data resources, and preparations for reporting them

Authors
Andy C. Pratt
Toby Bennett

22 April 2022

The project is conducted by:

UNIVERSITY OF AMSTERDAM

UNIVERSITAT DE BARCELONA

CITY UNIVERSITY LONDON

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

universität wien

Observatory of Cultural Economics

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UNIWERSYTET SWPS

Stockholm University

The CICERONE project is coordinated by the Amsterdam Institute for Social Science Research (AISSR) of the University of Amsterdam, which is located at:

Nieuwe Achtergracht 166
1018 WV Amsterdam
The Netherlands

info@cicerone-project.eu
www.cicerone-project.eu

Report   April 22, 2022

1

Abstract

This CICERONE paper (D4.3) is part of series addressing the problem of the lack of data available to describe the Cultural and Creative Sector (CCS) production system. This series explains how and why the currently available data is insufficient in its depth, and breadth of coverage, leading to an appreciation of which activities are made visible, and which are obscured or hidden, by such measures. In the first paper of this series (D4.2), entitled *Everything you always wanted to know about data for the Cultural and Creative Sector production system, but were afraid to ask: Part 1 – Problems of statistical description*, a first step is taken in proposing what a sufficient taxonomy would look like: a suitable framework of new data collection related to the CCS production system. In this paper, we set out this framework in more detail a following. The purpose of D4.2 was to describe the intersection between definitions, and their operationalisation in taxonomies and actual data collection. It articulates the implications of a 'Romantic' definition of culture that has been used previously with an industrial taxonomy: arguably both notions have been failed. It then describe various attempts to conceptualise and mobilise taxonomies that bridge this divide and, in so doing, articulate their limitations. In this paper (D4.3), we advocate a new data matrix – a radical realignment of concepts and industry taxonomies . This matrix is, in effect, the conceptual and practical foundation of a Cultural Economy Observatory that is built as part of the CICERONE project.

Key words

Cultural statistics, data governance, European Union, Eurostat, global production networks, data matrices

Everything you always wanted to know about data for the Cultural and Creative Sector production system, but were afraid to ask: Part 2 – Assembling disparate data resources

Project name	Creative Industries Cultural Economy Production Network
Project acronym	CICERONE
Grant agreement ID	822778
Project deliverable name	Occasional technical and definitional discussion papers
Deliverable number	D4.3
Responsible partner	City University London
Work package	The CICERONE project consists of seven work packages (WPs). This report is part of WP4, which aims at building a Cultural Economy Observatory. With the observatory, the CICERONE project showcases the added value of studying the cultural and creative sectors (CCS) through the analytical lens of global production networks. From this perspective, the CICERONE project claims a lack of data, in both quantity, quality and detail, and a poor or outdated conception of how these sectors operate. The observatory will build a proof of concept for the field. Through its action, it will provide leadership and focus for debates, and a repository for both the finding of the project and a potential nexus of information going forward. The observatory is to be the major legacy of the CICERONE project. This report (D4.2) advocates a new data matrix, which constitutes a radical realignment of concepts and industry taxonomies. This new data matrix is further developed in a following paper (D4.3) and is a key conceptual and practical foundation upon which the Cultural Economy Observatory will be build. All papers of the CICERONE project are publicly disclosed on the project's website www.cicerone-project.eu and in its dedicated Zenodo community on https://zenodo.org/communities/cicerone-h2020.

Table of contents

1.   Introduction

This paper is the third in a series outlining the justification and framework for a new Cultural Economy Observatory (in short, the CEO), founded on Global Production Network (GPN) principles. CEO acts as a large and public window of display for the results of the CICERONE project. Constructing such a window goes beyond traditional dissemination tools; it is considered an appropriate tool to match with the project's overall ambition and potential to innovate. CICERONE looks at the cultural and creative industries from a global production network perspective and thus goes beyond the often-used cluster and value-chain approaches to study these industries. Rather than focusing on just one locality in which a particular Cultural and Creative Sector[1] (CSS) activity is concentrated, the emphasis is instead shifted to linkages between actors, at the various stages of production, in (and across) different places. The project explores these linkages: which actor is involved in which activity, how are flows coordinated, where is value created and captured etc. We argue that this GPN approach to the CCS allows us to challenge both extant statistical data gathering and policymaking for CCS. In this way, we can indicate the need for particular data that might support better policy making in a European CCS GPN system; this will be taken up in our discussion of WP5 stakeholders and policy.

The second paper focused on enumerating historic and persistent issues associated with extant approaches to collecting information on European CCS, most visibly in the limitations of national statistical accounting, as well as in private data sources. These issues are summarised using the concept of a matrix, the cells of which remain largely unpopulated due to the paucity of existing sources. In response, we proposed a different approach – matrix two – that would be more sensitive to the world as it is (not as the standard classifications suggest it should be), that could connect localised information to transnational flows of goods, services and employees, and that would enable important gaps in information to strategically located and resourced.

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[1] Whilst we are adopting the 'CCS' terminology in line with ESS-net and other EU commentaries we have some caveats about its use, as highlighted in the previous paper (D4.2). The terminology wrongly refers to 'sectors' (plural) which shows a confusion/elision with 'industry/-ies'. To be consistent, from an institutional economics perspective, a sector refers to a group of interrelated activities (a filliere) based on linked processes: not on a similarity of materials, nor by virtue of selling to a similar market (which is the 'lazy' usage of the term 'industry' in neo-classical economics). What are often referred to as the different 'industries' of culture and creativity should in fact be referred to as subdivisions of the 'sector' (the usage of 'domain' and 'function' also offer a counter to incipient neo-classical economic reductivism in this regard). So, more properly, the CCS should refer to the Culture and Creative Sector (singular); which is subdivided in process terms by the cycle of cultural production (functions) and distinguishes cultural forms using the notion of 'domains'. As noted previously, the neo-classical approach allows properly firms and markets, with no place (analytically or conceptually) for institutions. In institutional analysis we explore the institutions that represent the temporal repetition and routinisation of projects and networks such that they appear to be the previously mentioned stabilities of 'institutions' and 'firms'. Such debates are central to the notion of the expanded territory of the CCS that we seek to map. Moreover, the reason we draw the scope in such a manner is that it captures the full extent of processes. It is only by understanding the full extent of processes that we can construct more adequate policy interventions (that will efficiently modify thus indicated processes).

In the same way that we have inherited an imprecise taxonomical language, we are also bound by the previous regimes of data collection. It is a simple but pertinent point that data is always collected for a purpose; hence the taxonomies used to classify it are similarly rooted. This is, in a sense, the watermark of the 'political economy of information' which we have to work with. Up to this point in time we have relied upon a general conception of 'the economy' that viewed culture and creativity as inimical to, or outside of, its domain. Where data has been collected it has been based on public funding versus private funding, or production versus consumption; and, moreover, formal versus informal. Our objective is to wash out the historic watermarks of old or received notions of 'culture' and 'economy' and replace them with a more comprehensive and open system. In so doing, we create new 'visibilities' (previously, 'unknown unknowns'), as well as a system whereby we can situate gaps ('known unknowns'). In particular, we point to the areas of what are (appropriately) termed the 'invisible economy' (flows of goods and services, commodities like money, and intellectual properties). Clearly with recent technological changes, summarily referred to as digitisation, these flows of value (economic and cultural) are proportionately more representative of trade than material goods. Moreover, they flow more easily across 'old' (sovereign) territorial boundaries. In part, our task is also to highlight the absence of measures, and data on these flows, in the hope that it will stimulate attention and data collection.

The purpose of this paper is to elaborate what we refer to as the second matrix in greater detail, and to explain its operationalisation, drawing from worked examples of specific CCS sub-industries. To this end, the paper also includes three annex documents on data sources drawn from three exemplar domains (audiovisual, architecture, publishing). In each case they illustrate: first, case studies showing the availability and absence of statistical data across different parts of the CCS; and, second, information from secondary and private sources that act as a useful supplement to this data. The core substance of the paper is to set out a suitable taxonomy to capture this information and, moreover, to demonstrate where new primary research is needed – eventually to include information collected by the CICERONE project (D2.1)[2] – and where the difficulties still lie.

The aim here is establish a comprehensive mapping of the creative economy across all functions and domains. In so doing we will highlight which gaps are filled by the existing data, and which gaps remain. Consequently, we also intend to indicate which cells we aspire to populate with the CICERONE primary research reported in WP 2.1. As such, Matrix 2 provides the framework and structural foundation for WP4, the Cultural Economy Observatory.

1.1   Overview of the approach

We have demonstrated in the previous paper (D4.2) that the data taxonomies for the CCS are not adequate to plot the CCS, missing taxonomic cells variously by domain and different parts of the

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[2] The limited resources of CICERONE do not enable us to offer a fully worked out and populated data set. Our aim is of a proof of concept, with illustrations across several domains, and the spaces of CCS GPNs. But this will generate both a taxonomy, and an Observatory structure that will be robust to expand with future research and data collection when resources allow.

production cycle. Further we have established that both data, measurement, and available taxonomic frameworks do little to shine light upon GPN aspects of cultural production systems. Notably, flows of goods and services across territorial boundaries are largely absent. Our objective here is to take a step beyond the previous strategy which can be compared to establishing a 'lowest common denominator' approach to data collection.

Having deconstructed the taxonomy of the CCS, we now seek to reconstruct it. Simply, we seek to establish a clear conceptual framework that through the process of its population will highlight the gaps in our knowledge, and the patterns and strategic import. Moreover, we argue that this proposed framework will create a robust, future-proofed, structure for the Observatory that will drive researchers to populate known unknowns, as well as alerting policy makers to the critical absences of data. The proposed framework can be populated by both quantitative and qualitative information. In this way, we will not only provide insights into the total population, but also provide parallel intelligence on processes and causes, or drivers, of change, as well as the configuration of control due to organisational scope and regulatory reach.

The cultural observatory format: key elements

Below, we provide an outline of the key elements which will form the main building blocks for the Cultural Economy Observatory. These elements have been formulated in iterative discussion with CICERONE partners in meetings and in writings since the start of the project. We think that now is time to fix ideas in a coherent vision, thereby structuring our discussions on the Observatory, and helping us to ensure that it will eventually live up to its full potential.

We distinguish three categories of key elements: A) objectives and founding principles; B) target audiences; C) focus areas; D) functions and features. These should serve as a point of departure to create a common ground and common understanding of the content, function, and form of the Observatory.

Objectives and founding principles

We summarise the project's main contributions as follows:

1) **Domain linkages**

   The CICERONE project challenges the traditional siloed (industry-based) conceptions of industries and domains, and shows that boundaries between professions, firms and industries in the CCS are evidently much more fluid and permeable than is often assumed.

2) **Limitations of existing statistics**

   CICERONE has shown that existing basic statistical data on the creative economy is partial, subject to non-100% coverage and sample size limitations. Furthermore, data is founded on a set of more traditional mass production (Fordist) notions regarding the classification of

jobs/firms/activities – a framework developed in the 1950s and only marginally reviewed since. Changes in the nature and organisation of all industries, especially the CCS make it critical to develop a more appropriate taxonomy.

3) Production networks

By incorporating linkages, flows and networks that bridge places, competencies, regulatory frameworks and locally-rooted competitive advantages, CICERONE uncovers important new relationships between industries, sites and local impacts, thereby opening up new avenues for policy-making.

Target audiences

Due to its comprehensive cross-industrial analyses, CICERONE's findings will speak to several audiences at various levels. We can identify three core communities to which we will specifically address our findings: 1) policymakers; 2) professional associations of workers and/or firms in the CCS; and 3) researchers in academia, consultancy, and other research-oriented outfits.

1) Policymakers

The policymaking community includes both bodies and agencies at the local, national and European level, including the European Commission DGs Research Training and Development (RTD), Education, Youth, Sport and Culture (EAC), Eurostat, the Joint Research Centre and the related Research Executive Agencies as well as national ministries of culture, economic affairs and statistical bureaus.

2) Professional associations

The second category includes local/national/transnational federations, formal networks and professional associations that represent, support and lobby for individual industries or the CCS as a whole (e.g. the European Centre for Creative Economy, the Network of European Museum Organisations or the UK Creative Industries Federation, but also international organisations such as the OECD which have studied CCS).

3) Research community

To the third belong researchers from a wide range of social-science disciplines, among which economics, social and economic geography, sociology, and business and management studies.

Focal areas

To be able to serve these target audiences, the Observatory must present and explain the findings from the CICERONE project in a way which fits their respective interests and vocabularies. We propose

to structure the Observatory by focus areas, each of which correlates closely to one of the project's main contributions:

1) **Concepts, foundations, and causal linkages**

   This focus area covers the theoretical foundations of GPN, their applicability to the CCS and our cross-border comparative case-study research which explores the (causal) relationships within these CCS, thereby allowing for a better understanding of their dynamics (explaining their strengths and weaknesses) as production ecosystems.

2) **Societal impact and statistical measurements**

   This second focus area covers those parts of the project in which we seek to capture statistically the shape and size of production networks in CCS and provide a first – albeit partial – quantitative picture of the networked production systems in the creative economy in Europe which goes beyond existing statistical categories. Here, we will generate rich information on both the need for and the availability of different types of statistical data with which we can more accurately measure the impact of CCS on European society.

3) **Policy and governance**

   This third and final focus area straddles on our findings from the case studies and statistical explorations with a critical reflection of existing policy landscapes and institutional environments. Here, we will provide suggestions for new and refined policies and measures that are better suited to respond to the networked production within and across CCS. This also includes an investigation of how CCS cope with the COVID-19-crisis and its immediate aftermath and also which sets of policies turn out to be more effective in supporting the CCS.

Building an observatory along these lines, is of course not unique. There are many existing observatories that also position themselves at the interface of policy-making and academia. However, as noted above, we seek to articulate a taxonomy that matches the information needs of a CCS GPN.

Functions and features

In terms of the design of the Cultural Observatory it is envisaged that the CICERONE CCS GPN approach will create a taxonomy structure of the Observatory. It will be necessary to view this as a time-series of data where new sources, or new industries are concerned. Clearly such a matrix can be used to ask questions and evaluate the importance of investment in new research and data collection in fields that might be consider important by stakeholders. Some indicative areas are outlined below.

1) **Domains v Functions**

   Domains (industries) v Functions (production phase) will allow classification and interrogation of cells containing links to relevant data: quantitative and qualitative. Necessarily, this matrix

will be incomplete. We have, for example, not covered every industry; moreover, there have been gaps in the depth and scope of coverage by cells. However, the objective here is to create a provisional mapping of the territory which future researchers and policy makers can explore in more detail. The simplest presentation of Matrix 2 will plot functions against domains. This should be regarded as a basic (but critical) matrix, one that not only shows the 'known' data but also illustrates the 'known unknowns' (which might be populated in the future by additional research or surveys).

2) Space and Flows

Another sub theme that the Observatory will enable is the preliminary exploration of the shape and flow of GPN networks in each of the industries. There will certainly be visibility of the general shape and configuration of networks, although detailed mapping of networks will by necessity need to be the subject of a follow-on project. Likewise, some initial insight into the intra-regional flows and configuration within Europe might be revealed, as well as a start to extra-European spaces.

3) Stakeholders

Another dimension that the observatory can shine a light on is the distribution and power of stakeholders representing the CCS: a key stakeholder community is labour; another is trade bodies; a further is civil society and communities. Part of the insight provided by the GPN perspective is to highlight the connections of places: to one another; and to sites of power and control. Clearly debates about local identity and culture, cultural production and consumption, and participation will find an interface here.

4) Power

Another output 'perspective' might be a collection of representations of power in organisational structures and networks of provision. These may, for example, be able to highlight the role of particular agents, gatekeepers or filters that restrict or give access to markets, distribution systems, suppliers, or audiences.

5) Cultural Commons

This bigger picture and new perspective will open up a new debate about the nature and form of the European Cultural Commons and illustrate the potential of it for society - but also the threat previously unperceived.

2. Data Matrix 2.0

2.1   Foundations

We take a view of the whole production system: that is, a chain of production; best represented as a five-phase cycle (creation-production-distribution-consumption-archiving), where consumption and archiving do not constitute an endpoint, but feed back into creation and production phases. Hence, this is a clearly 'circular economy', or 'ecosystem', which is neither linear nor unidirectional in its causality/operation or process. One of the characteristics of the CCS is that innovation is not simply related to products but processes. Consequently, empirical organisational changes are common to 'capture' the added value of a new process that are necessary to constitute a product. Traditional classifications are effectively 'blind' to such transformations.[3]

Some caveats are required. We are proposing an idealised structure that nonetheless works as a 'staging post', methodologically speaking, enabling an insight into the strategic control of a GPN to be projected onto particular phases. This is a dynamic field to which we expect modifications to be made in an iterative fashion. Strategic advantages are achieved by firms and regions 'capturing' value streams in novel ways denoting a dynamic process. Moreover, organisational changes, and empirical variety, will blur the boundaries of the five phases; however, they provide a useful heuristic for a common understanding of the CCS.

With these caveats in mind, the production system model allows us to 'begin somewhere', in a five-phase cycle representation of the GPN that proposes to correspond to the actually existing activities that constitute the CCS in Europe today.

If we accept this, the adequacy of current data/information sources can then be tested by populating a matrix of the five phases against the 'topics' in which we are analytically interested (employment, training, organisation, flows of goods and services, etc).[4]

To elaborate this model, we have tested it by adding knowledge and evidence from three domains, from our WP2 research, as a proof of concept (see Annex). Some brief insights from this process are discussed below.

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[3] In the traditional classification of industries such separate tasks associated with producing one product – a shoe, or a car for example – are classified together as one 'industry'. In this sense the proposition for the CCS is consistent methodologically with the wider classification; it constitutes an empirical updating to include the CCS more comprehensively.

[4] Let us leave aside the question of micro-enterprises and freelancing. The language of strategic organisation does not help here. Micro-enterprises operate in a loose network, or more formal temporary project; more so than simply as contractors. We might like to think of 'temporary projects' as a common organisational form when reporting (i.e. temporary projects are not just local; they can be transversal).

2.2   Operationalisation

Our starting point is the conceptualisation of the cultural production cycle. Against this we are seeking to plot a variety of empirical aspects of the CCS relating to its character and organisation. A review of literature, both in the policy and academic field, yielded Table 1: the cycle is represented across the horizontal; with measures presented in columns. This table then constitutes the provisional field of knowledge about the CCS. It highlights three perspectives: employment; economic output and structure; and the territorial scope of activities. The key point is that this enables the disaggregation of different parts of the production process and how they impact on employment, output and place. Of course, we aim to produce such a 'perspective' for each domain or industry; again, this opens up our insight to the diversities within the CCS. There is the theoretical potential to create a further dimension of this framework that includes time;[5] once again, highlighting yet another vector of transformation.

Accordingly, we propose Matrix 2, an initial idealised position, derived from ESS-net (2012) and UNESCO (2009)– see table A below):

	Creation	Production	Distribution	Exchange	Archive
a. Employment					
Industry					
occupation					
…others					
b. Economic activity					
Turnover					
Gross Added value					
…others					
c. Labour and Skill					
Labour conditions					
Wage rates, Contract form, FT/PT, gender, training …others					
d. Organization/power					
Organization/hierarchy, control					

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[5] Pertinently, this applies to the Observatory.

Firm, project, size/scale Distribution					
…others					
e. Transversality					
Location, flows, locus of control					
…others					

Column 1 of Table A lists topics and sub-topics. Topics are key areas of interest: those listed are indicative, not exhaustive; other topics might be clarified in CICERONE WP1. 'Sub-topics' are those that are represented by existing surveys (census/labour surveys, etc).[6] The traditional economic measures of output and employment can further be elaborated in relation to issues about the quality of work, its structural distribution and wage level, by population characteristics (notably gender and ethnicity but also age). We have also identified that a live topic of debate has been the contractual relations of work (length of contract and career expectations), as well as skill levels and training provision. In some countries, specific labour market analyses have been carried into the labour conditions. We lack clarity of how these conditions change across the functions, rather than domains.

Questions of organisation and power have traditionally been overlooked and this is something that GPN analyses of CCS have the opportunity to highlight. The project focus on the 'geometry' of power (scale, control and their articulation) has been developed in WP2 through the means of summative diagrams across domains.

We have yet to have develop a parallel methodology in expressing the 'locality effect': how the articulation of dense interactions (or a unique local-global combination) 'make up' places in a cultural, social or economic manner. The wider literature has pointed to the particular propensity for CCS to localise in cities: less often through traditional local trading networks, but more often through competitive collaboration, and the constitution of local 'scenes' and production expertise.

It is possible that further dimensions could be added: for example, a 'time' dimension, adding another set of matrices by date. The key point is that this framework is infinitely extensive and dynamic (unlike previous codifications). It would be helpful in elaborating the emergence and development of local production/consumption cultures (which, although beyond the current project, is indicative of how the observatory could add dimensions using historical studies).

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[6] For instance, the enumeration of employment by occupation and industry is a 'quirk' of the census and EU collection systems. It is not that these categories are unhelpful but the taxonomies they use do not map fully onto a definition of the CCS, especially a five-phase model (although some industries have better taxonomies than others).

Differences by Domain

Our proof-of-concept test of applying extant information and data to a putative example of Matrix 2 was able to highlight the significant differences between domains (see Annex 1). First, we can note that the volume and breath of coverage (notably of functions) is variable across Audio-Visual, Architecture and Publishing.

Publishing is split between industry sales performance and authors' income: there is very little on the aspects of printing and distribution. Moreover, the shift to digital platforms has seen sales data by title (previously widely available) removed from the public domain (now withheld by platforms), making the nature of reconfigurations of the industry less visible.

The case of Architecture shares the same patchy coverage of much of the functions aside from creation. What is clear from these studies is that the architectural field and its organisation have been changing rapidly, while the divisions between functions has become increasingly blurred.

Finally, the audio-visual domain is illuminating in that it is far better populated by function than all other areas; yet even then it is not perfect. Drilling down deeper, if we focus on film, we find perhaps the only example of a nearly complete data matrix. Film, and to a lesser extent TV, has been a huge focus of policy making (for cultural as much as economic reasons). Not surprisingly a data infrastructure has been built to fulfil this function. The notable example is the European Audio Visual observatory which operates as an aggregator of national governments' statistical surveys and Eurostat data;[7] it also draws in both proprietary data (some, not all) and information from trade associations. Nonetheless, this simply illustrates the point that the policy concern has driven data collection and aggregation (it also required the EU to support the observatory). A similar evolution is needed across the field of the CCS – but this is far more ambitious. Without a strong direction in CCS policies from the EU, and a parallel data and evidence project, things will not change. Whereas film as a domain is united in its dependency on EU and national funding, there is no similar transversal 'demand' from the CCS. This points to the relatively fragmented stakeholder group, as well as policy portfolio.

2.3   Provisional gap analysis

Looking across the domains and functions, and with reference to Annex 1, we can carry out a provisional 'gap analysis'.[8] Table A allows us to map available data/information sources against an idealised position of 'total information' about the CCS GPN.[9] This is step one: testing (the limitations of) particular data sets, by scale and by industry. Taking EUROSTAT data as an example, it is possible to interrogate which cells can be filled: at a) the EU level, b) the national, and c) regional level; and for

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[7] Not the same: individual state data requires transformation to correspond to Eurostat data, and national data, especially census data, is the only 100% survey data available.

[8] That is, a comparison of current/actual and desired/potential results; the space between 'where we are' and 'where we want to be'.

[9] The logic of this matrix approach was developed – in a slightly different way – in the UNESCO (2009: 85) - figure 4- Framework for cultural statistics. So, the approach is compatible. CICERONE has developed a variety of indicators in its WP2.1 methodology.

each 'industry' of the CCS. The result might look something like Table B, which is a summary for (all industries) at the EU level.

Table B

	Creation	Production	Distribution	Exchange	Archive
a. Employment					
Industry	some	Some (more)	Some (more)	some	some
occupation	most	some	Some (less)	some	some
b. Economic activity					
Turnover		some		some	(plus potentially from public funding data)
Added value	none	some	some	none	none
c. Labour and skill					
Labour conditions	none	none	none	none	none
d. Organization/power					
Organization/hierarchy	none	none	none	none	none
Firm size s	some	some	some	some	some
e. Transversality					
Spatial spread/location (beyond main plant)	none	none	none	none	none

Mapping an existing dataset such as EUROSTAT, then, produces a table that is clearly only partially populated: some cells are complete; some contain incomplete data; and many are empty.

An attempt to populate this matrix with publicly available data for each of our case study industries has been attempted in WP 2.1.[10] As noted in the previous paper (D4.2), Matrix 1 represents a pragmatic allotment of existing industry (NACE) codes to the functional actions of cultural production. What is therefore revealed by doing so is that the current EU data is insufficient to describe, let alone explain, nor form the evidence base for policy making, in the EU CCS.

This then leads us to Step 2. Having identified the gaps, where (beyond the exemplary findings of this project) missing data must be found, we can seek out existing sources (which may be hidden behind commercial paywalls) or to generate new data for the 'none' cells (with new research). These are our

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[10] In effect, this Matrix 2.0 will become the foundation of the repository of D2.1 findings, plus additional inputs from WP3 (organisational forms) and WP6 (policy and stakeholders).

'known unknowns' – with addition of those unknowns in the public realm that exist (behind paywalls, or in private control). A further option is to propose a new research initiative that focuses on strategically significant gaps. The CICERONE project develops in WP2 a first attempt to provide some examples of mapping CCS GPNs. WP 2 shows what can be done and can act as a template for a future, more comprehensive, project. Clearly, our case studies are limited to region and national territories and limited by the examples of domains chosen. As well as providing specific GPN insights, their objective is to illustrate the scope and potential of the approach.

3.   Anticipation of conclusions

We have proposed Matrix 2 as a two-stage process. Stage one is to represent the ideal case of 'total information', in which existing public (and private) data is tested against the five-phase cycle of the production system, mapped across important analytic themes, organised by core topics (and subtopics). This leads us to a state in which the presence and absence of data across multiple cells is clearly visible in a table. In stage two, we are assembling and supplementing this table with new empirical data, from the CICERONE project (WP2). Initial analyses will help us to identify specific areas in which further data collection is advisable at a strategically targeted level.

There are two consequences of this exercise. First, we can inform policy makers, politicians and practitioners of the 'known unknowns' (empty cells). As we know that CCS seldom see themselves as a unified 'sector', this might be a point of solidarity – highlighting that different 'industries' share similar data gaps. Equally, for policy makers, it might illustrate 'common holes' that we do not know about. Moreover, it might reveal that private domain data already exists, or information collected on behalf of trade associations. Again, this would prompt a useful debate.

Consequently, and more positively, such a table clarifies thinking and strategic decision-making regarding what new data needs to be gathered. Different stakeholders might have different preferences here. Some might be 'nice to know' for a particular industry; others might be of strategic significance to the EU. This could inform resource allocation and priority for particular data collection. Moreover, empty or partial cells can raise questions as to whether new quantitative data is required or whether qualitative data might be preferable.

It is our proposal that this exercise, and the production of findings, engage the EU and our stakeholders in debating: which data is most useful, and to whom; how such gaps should be filled. Again, we are seeking a dynamic position that allows us to plot a routeway towards strategic data collection, so that we can incrementally 'fill the gaps' for several (competing) organisations but to the benefit of all.

The next steps: the repository and the observatory

This paper has shown how a revised taxonomy of the CCS can offer the possibility of developing further insight into many, previously neglected, aspects of the CCS and an understanding of the impacts on economy, society, and culture. In this sense the field work that has been carried out in D2.1 is the first data that can be used to populate this matrix. Moreover, it is the aim that the storage in such a form will enable further cross-sectional, or transversal, analysis of the CCS. Such a repository makes visible the production network as the lens and formative analytical tool. It is also the intent of the analysis to open the resources to additional questions, or to 'dig deeper' into our findings. So, the repository will have a function of storing findings, and of presenting them; and further of offering further potential analyses based on queries.

To achieve this, we will integrate a version of our analytical coding structure to blocks of 'free text' retrieved from interviews[11]. This will enable the repository as a further research resource, above and beyond the more limited aims of the case studies reported in D2.1. Moreover, it will provide the linkage to the Observatory. The Observatory is a legacy structure of the repository which we seek to establish: at minimum it will provide sustainable access to project findings; at maximum it will become a leading 'first stop' resource for those who seek to understand the creative economy in Europe. This extensive version would be based upon the CICERONE findings but augmented by future research findings and secondary data collections. The central point is that the Observatory lens of the cultural production network can set a new agenda for making and evaluating policy in the field.

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[11] See Annex 2 which includes i. a schema that we have developed for transferring the coding structure of D2.1 so that it can be input into the Repository. ii. Indications of the analytical query functions. Both dimensions form the foundation of the Observatory: a preliminary schema of which is presented in Annex 3.

Annex 1: The matrices for publishing, audio-visual (and film), and architecture

DATA MATRIX Audiovisual industries (Film) 2018	Creation	Production	Distribution	Exchange	Archiving	TOTAL	METHODOLOGICAL NOTES
QUANTITATIVE DATA NATIONAL							
Employment	NACE 90.03 (*) Artistic creation; National Statistics - OCE /1104/	NACE 59.11 Motion picture, video and television programme production 59.12 Motion picture, video and television programme post-production; National Statistics /3285/	NACE 59.13 Motion picture, video and television programme distribution 47.63 Retail sale of music and video recordings in specialized stores 77.22 Renting of video tapes and disks /291/	NACE: 59.14 Motion picture projection activities 82.30 Organisation of conventions and trade shows 58.11 Book publishing 58.14 Publishing of journals and periodicals 73.1 Advertising /450/	91.01 (*) Library and archives activities 91.02 (*) Museums activities /454/	5.585	The data is based on OCE's mapping used for CCIs (commissioned by Sofia Municipality), developed in partnership with the National Statistical Institute, which provided the data on a methodology (mapping matrix) constructed by the Observatory team.
Turnover	National statistics - OCE	**Production value** (EFARN & National film institutes); National statistics; EAO; /150 140 000/	National statistics; National film institutes. OCE, EFARN: number of cinema theatre admissions; number of cinemas, screens & seats; Users; /56 505 000/	**Sales** (ticket admissions, hard-copy (DVD)), VOD, SVOD, Online); National statistics; EAO; EFARN, National film institutes & the like / TICKET ADMISSIONS total	National statistics; National film institutes;	229.045.446	National film institutes, funds, ministries provide different types of information, which is not comparable; Some of the data is in national currency (BGN); the European data (MEDIA, EAO etc) is in EUR.
Numerical data (EUR)		BGN lev150.140.000	BGN lev56.505.000	€22.400.446	BGN lev240.000.000		Some data is available in EUR, other in BGN (national currency)
Value added (in million BGN)	National statistics, OCE	National statistics /53,1/	National statistics/4,1/	National statistics/8,3/	National statistics/240/	305,5	
Numerical data (BGN)		BGN lev53.100.000	BGN lev4.100.000	BGN lev8.300.000	BGN lev240.000.000	BGN lev305.500.000	
Number of entreprises	National statistics, OCE /1209/	National statistics; National film institutes /863/	National statistics; National film institutes /112/	National statistics; National film institutes /49/	National statistics; National film institutes /240/	2.473	
Size of firm	National statistics	National statistics; National film institutes	National statistics; National film institutes	National statistics; National film institutes	National statistics; National film institutes	-	
Foreign direct investment (FDI)	National statistics /N.A./	National statistics; National film institutes/N.A./	National statistics; National film institutes	National statistics; National film institutes/N.A./	National statistics; National film institutes/N.A./		
Numerical data			€1.951.400			€27.532.000	
Export+ *Inter-Country Input-Output tables(ICIO)*	National statistics	National statistics	National statistics, MEDIA Programme; , EAO/LUMIERE - Data on the circulation of European films outside Europe; EFARN Network (EAO); Comscore.com;	National statistics; EAO/LUMIERE - Data on the circulation of European films outside Europe; EFARN Network (EAO); Comscore.com; MEDIA Programme;	National statistics	-	Methodology (EAO, The Circullation of European Films Abroad, 2019, p.26) - "it is practically impossible to quantify the total market volume for theatrical films across the variety of distribution windows". Approach used by EAO is to measure market volume in terms of consumer expenditure on film. (except on TV or SVOD)
Subsidies, Stait Aid (sources)	Ministry of Culture, National Film Centre /2018/	Ministry of Culture, National Film Centre /2018/	Ministry of Culture, National Film Centre /2018/	Ministry of Culture, National Film Centre /2018/	Ministry of Culture, National Film Centre /2018/	-	
Numerical data (EUR)	€127.000	€5.400.000	€670.000	€337.500	€415.000	€6.949.500	
Creative Europe -MEDIA Programme /2007-2017/ - SUPPORT FOR	€1.014.278	0	€1.923.814	€1.274.663	€80.000,00	€4.292.755	0 = NA
QUANTITATIVE DATA EUROPEAN & OTHER SOURCES							
Employment		EAO	EAO	EAO			EAO and EFARN studies have data about Gender balance and diversity in
Turnover	EAO Trends (yearbooks) - on circulation, admissions, revenues from digital platforms; EFARN, National film institutes & the like / TICKET ADMISSIONS total; MAVISE Database for TVOD, SVOD (link) https://mavise.obs.coe.int/ ; Media Salles - on cinemas and cinema going	EAO Trends (yearbooks) - on circulation, admissions, revenues from digital platforms; EFARN, National film institutes & the like / TICKET ADMISSIONS total; MAVISE Database for TVOD, SVOD (link) https://mavise.obs.coe.int/ ; Media Salles - on cinemas and cinema going	EAO Trends (yearbooks) - on circulation, admissions, revenues from digital platforms; EFARN, National film institutes & the like / TICKET ADMISSIONS total; MAVISE Database for TVOD, SVOD (link) https://mavise.obs.coe.int/ ; Media Salles - on cinemas and cinema going	EAO Trends (yearbooks) - on circulation, admissions, revenues from digital platforms; EFARN, National film institutes & the like / TICKET ADMISSIONS total; MAVISE Database for TVOD, SVOD (link) https://mavise.obs.coe.int/ ; Media Salles - on cinemas and cinema going			Data about the film industry deposit system by EAO and EUIPO (on legal and copyright deposits) but only for 6 countries (BE, NL, DE, FR, PT, LU) (2017) - data is collected via surveys.
Value added							
Number of entreprises	EAO	EAO - MAVISE Number of TV channels, TV-companies, ownership etc https://rm.coe.int/audiovisual-media-services-in-europe-market-insights/16809816d1;	EAO - MAVISE Number of TV channels, TV-companies, ownership etc https://rm.coe.int/audiovisual-media-services-in-europe-market-insights/16809816d1;	EAO - MAVISE https://rm.coe.int/audiovisual-media-services-in-europe-market-insights/16809816d1			

	Creation	Production	Distribution	Exchange	Archiving	TOTAL	METHODOLOGICAL NOTES
Size of firm		EAO - MAVISE Number of TV channels, TV-companies, ownership etc https://rm.coe.int/audiovisual-media-services-in-europe-market-insights/16809816d1;	EAO - MAVISE Number of TV channels, TV-companies, ownership etc https://rm.coe.int/audiovisual-media-services-in-europe-market-insights/16809816d1;				
Foreign direct investment (FDI)							
Export+ *Inter-Country Input-Output tables(ICIO)*			EDIA Programme; EAO /LUMIERE - Data on the circulation of European films outside Europe; Worldwide cinema admissions of European films. EFARN Network (EAO); Comscore.com; (Source: EAO Yearbooks)	EAO/LUMIERE - Data on the circulation of European films outside Europe; EFARN Network (EAO); Comscore.com; MEDIA Programme; MAVISE Database for TVOD, SVOD (link) https://mavise.obs.coe.int/			
Public funding (subsidies)	EAO Yearbook Subsidies for film creation and production; Film budgets breakdowns - reflecting private, public, incentives etc.	EAO - Subsidies for film creation and production; Film budgets;					

QUALITATIVE DATA

Governance

	Creation	Production	Distribution	Exchange	Archiving	TOTAL	METHODOLOGICAL NOTES
Power							
Firms related							
Institution related – industry							
Firms position in the network – intermediate, final							
Public funding (subsidies) - national, European							
Value							
Value creation	Reputation, aesthetic /emotional values,..	Reputation, quality, skills, prof. knowledge, standard keeping ..	Lead times, direct sales	Face-to face interactions, …	Archive setting and management		
Value enhancement							
Value capture							

Embeddedness

	Creation	Production	Distribution	Exchange	Archiving	TOTAL	METHODOLOGICAL NOTES
Societal							
Network							
Territorial							
…							

Impact

	Creation	Production	Distribution	Exchange	Archiving	TOTAL	METHODOLOGICAL NOTES
Industrial Upgrading							
Socio-Economic Development							
Employment							
Labour conditions							
Other economic activities							
Sustainability							
Local identity							

Geography

	Creation	Production	Distribution	Exchange	Archiving	TOTAL	METHODOLOGICAL NOTES

DATA MATRIX Publishing	Creation	Production	Distribution	Exchange	Archiving	TOTAL	METHODOLOGICAL NOTES
QUANTITATIVE DATA							
Employment	European Writers Council country reports: Germany, Spain, Italy, France	FEP annual statistics					
Turnover	European Writers Council country reports (revenues): Germany, Spain, Italy, France	FEP annual statistics	FEP annual statistics				

DATA MATRIX Architecture	Creation	Production	Distribution	Exchange	Archiving	TOTAL	METHODOLOGICAL NOTES
Value added		FEP annual statistics					
Number of entreprises							
Size of firm							
Foreign direct investment (FDI)							
Export+ *Inter-Country Input-Output tables(ICIO)*							
Share of sales on domestic / export markets		FEP annual statistics					
QUALITATIVE DATA							
Governance							
Power							
Firms related (i.e. brand, resources, organizational, standards applied to business partners)							
Institution related – industry agreements							
Firms position in the network – intermediate, final							
Value							
Value creation - i.e. relations, reputation, skills, organizational, technologies, …	Reputation, aesthetic /emotional values,..	Reputation, quality, skills, prof. knowledge, standard keeping ..	Lead times, direct sales	Face-to face interactions, …	Archive setting and management		
Value enhancement - new technologies, competencies, materials							
Value capture - i.e. brand reputation, standards, IPRs, wages, contractual relations, direct retail, ……							
Embeddedness							
Societal							
Network							
Territorial							
…							
Impact							
Industrial Upgrading							
Socio-Economic Development							
Employment							
Labour conditions							
Other economic activities							
Sustainability							
Local identity							
Geography							

DATA MATRIX Architecture	Creation	Production	Distribution	Exchange	Archiving	TOTAL	METHODOLOGICAL NOTES
QUANTITATIVE DATA							
Employment	ACE Sector Study 2018: number of architects, field of employment, age, gender, years qualified						
Turnover	ACE Sector Study 2018: Average turnover in EUR by size of company						https://aceobservatory.com/Home.aspx?Y=2018&c=Europe&l=EN
Value added							
Number of entreprises	ACE Sector Study 2018						

Size of firm						
Foreign direct investment (FDI)						
Export+ *Inter-Country Input-Output tables(ICIO)*						
QUALITATIVE DATA						
Governance						
Power						
Firms related (i.e. brand, resources, organizational, standards applied to business partners)						
Institution related – industry agreements						
Firms position in the network – intermediate, final						
Value						
Value creation - i.e. relations, reputation, skills, organizational, technologies, …	Reputation, aesthetic /emotional values,..	Reputation, quality, skills, prof. knowledge, standard keeping ..	Lead times, direct sales	Face-to face interactions, …	Archive setting and management	
Value enhancement - new technologies, competencies, materials	ACE Sector Study 2018: Use of BIM, Building to nearly zero energy standards					
Value capture - i.e. brand reputation, standards, IPRs, wages, contractual relations, direct retail, ……	ACE Sector Study 2018: earnings, hour rate					
Embeddedness						
Societal						
Network						
Territorial	ACE Sector Study 2018: Nber of					
…						
Impact						
Industrial Upgrading						
Socio-Economic Development						
Employment						
Labour conditions	ACE Sector Study 2018: Employment					
Other economic activities						
Sustainability	ACE Sector Study 2018: Building to					
Local identity						
Geography						

Annex 2: Qualitative data input into the repository

This annex concerns a first outline of the manner through which the CEO repository comes to contain qualitative data from CICERONE WP2 fieldwork. In brief, appropriate quotations from coded interview transcripts must be selected, tagged and stored, ready to be ingested into the observatory database. This process is crucial to make this data amenable to user queries or filters.

The seven "top-level" codes are the key filters (see below and fig. 1); each of which will need to be mapped against important identifying data (industry/domain, phase/function, location, etc).

Coding scheme – top-level codes:
- Network Configuration
- Embeddedness
- Governance
- Labour
- Dynamics
- Impact/contribution to development
- Policy Issues

This implies a preparatory process, working from coded transcripts, in three subsequent steps: data extraction; data cleaning/tagging; data storage.

1. Extracting data

In practice, extracting qualitative data involves exporting relevant coded interview data. This can take place from either:

(i)   *QDA software (e.g. NVivo/Atlas.ti)*. Here we might choose to export a full list of the (coded) "raw data", including all sub-level codes [see fig. 1 below]. This constitutes an extensive option, providing a fuller selection of interview material; however it is subject to the vagaries and variations of various researchers' coding techniques, hence will likely produce a messier selection than option (ii), with a more intensive cleaning process (step 2).

(ii) *WP2 reports*. Alternatively, we might simply use whichever quotations have been selected for writing WP2 reports – selected and organised as per our "top-level" codes [see fig. 2 below]. In this option, the report acts as a filter mechanism: automatically "curating" the most relevant and rich quotations, already suitable for public consumption; however, this will necessarily produce a much less extensive selection of material than for option (i).

(iii) *Combination of both*: to mediate between the drawbacks of each, we might choose to supplement quotes from the case study reports (option ii) with some judicious selections of material from the raw data (option i). Taking this approach will require a process of appraisal, in which we look for gaps (in the option (ii) material) and target our coded data for any

examples of specific quotes representing (sub)codes that are, for whatever reason, missing from the reports.

2. Cleaning/tagging data

However the quotations are selected/extracted, they will then need to be processed in such a way that they are fit to feed into a database. Raw data exported from QDA software will need to be checked and "cleaned", to ensure text is:

- legible (grammatically coherent) and comprehensible outside of the context of the interview e.g. any pronouns ("it", "they"…) should include their referent
- translated into English (in many cases)
- appropriately anonymised, in accordance with respondent wishes

And so on. (Quotes from the WP2 report should already be relatively "clean" in these respects).
Each quote then needs to be tagged with contextual "metadata". Here we suggest the following (to be agreed):

- Phase of cycle (Creation, Production etc)
- Location (e.g. NUTS level 1 or 2)
- Industry/domain
- Case study (sub-industry)
- Interviewee role/task/function

3. Storage

Finally, qualitative data will need to be collated, tagged and stored in a standardised form, ready for ingestion into a database. In the simplest instance, this is a spreadsheet or a more specific file format e.g. JSON. The appropriate format will clearly need to be agreed with a technical expert.

4. Output

Coding and organising the qualitative data in this way will produce the added value of enabling transversal analyses of the phases or functions; and across any emergent typologies of production system. Moreover, this can generate exploratory analyses based on the re-grouping of quotes by (at least) typologies, or industries, or functions. In particular we plan to focus the repository and its communication function with a number of initial queries centring on:

- Labour conditions – Employment/skill in different phases
- Power distribution…Graphs/typologies
- Embeddedness by phases/typologies
- Impact by phases/typologies

By structuring the data in this way, we anticipate that we can help to 'shift the dial' on the analytical approach to the CCS with less stress on definitions of CCS, or even of industries and GPN. Instead, we would aim to focus on (the emergent) typologies as starting point. This is evidence of the new lens that the project has generated: an interaction between empirical data and the cultural GPN approach.

We seek to enable meta-analyses by phases and by industry, or synthesis by network typology, and hence promote a clarity of the consequences for policy-making – in its current form, and in any future form.

Figure 1. Coding scheme with NVico (with "governance" expanded to show subcodes)

- A. Network configuarion
- B. Embeddedness
- C. Network governance
    - (1) Power
        - (i) Arm's length vs strong ties
        - (ii) Concentration
        - (iii) Decisionmaking
        - (iv) Market concentration, monopoly
        - (v) Power distribution
        - (vi) Prestige, position, recognition
        - (vii) Source, locus of power
        - (viii) Vertical integration
    - (2) Actors
        - (i) Lead actors (source of power)
        - (ii) Strategic partners
        - (iii) Generic suppliers
        - (iv) Key customers
        - (v) Specialised supplier
    - (3) Input-output structure
- D. Policy
- E. Contribution to development
- F. Labour
- G. Dynamics
- H. Other

Figure 2. Codes mapped against WP2 report sections (colour coded)

Top-level codes:

- **Network configuration**
- **Embeddedness**
- **Governance**
- **Labour**
- **Dynamics**
- **Impact/development**
- **Policy issues**

WP2 report (D2.1 to D2.8) analytic section structure:

1. Mapping and explaining the network of the [e.g. craft] case 1
    1.1. *Phases, actors, and locations* (**network configuration**)
        1.1.1. Identification of the (input-output) structure of the network; the spatial footprint (the geography of the network). Identification of the relevant actors for each of the GPN phases plus visualisation of phases/actors and locations. Neat linear scheme of phases will not applicable to all cases as phases may be absent, overlap, hard to delineate – but these observations are research findings in itself.
        1.1.2. Explaining relationships activities/phases with place: Territorial Embeddedness: how are the different parts of the production network embedded in local ecosystems (agglomeration economies, traded and untraded interdependencies). Links our work to extensive body on clustering etc – but we distinguish different phases. Type of network-territory integration (strategic combination)
        1.1.3. Dynamics: changes over time (including impact of Covid-19)
    1.2. *Relationships between actors* (**Governance**)
        1.2.1. Governance of the network: power distribution; sources of power (financial, skills, technology etc.); barriers to entry, mechanisms of value creation enhancement and capture/appropriation (also related to labour exploitation), discursive practices, etc. Visualisation of power distribution among actors.
        1.2.2. Socio-cultural embeddedness: Social network; Cultural identity/tradition; Relationship dynamics; Motivation/habitus of key actors; Cross-sector spillovers; Cognitive frames; Aesthetic canons; Languages.
    1.3. *Position cases within* **typology**
    1.4. *Dynamics* (If any) transformations over time

2. Societal impacts of the production networks of the [craft] case 1
    Impact along several dimensions strategic policy issues for the EU
    2.1. ***Economic*** *impact*
        Contribution to economic development (jobs, GDP etc); GPN and socio-economic development at different spatial scales. Type of network-territory integration (strategic combination), Ways in which local areas benefit (or do not) from network flows
    2.2. ***Social*** *impact*
        Employment features, conditions, agency of workers, of workers associations, collective actors social upgrading
    2.3. ***Cultural*** *impact*
        Identity/community aspects Role of innovation and technology
    2.4. *Dynamics* (If any) transformations over time
3. Policy implications of the [craft] case 1
    Link findings to positioning of cases, scope for generalisation, and wider implications for the industry as a whole. Identification of the policy issues. Identification of key actors/ stakeholders which would/should be involved in policymaking and at which level (local/ regional/national/EU) for which issues
4. Final remarks about the [craft] case 1

Annex 3: Schema for a functional design of the Observatory

1. **Requirements**
   - Show relevancy/urgency (Covid-related): why should policy makers be interested
   - Awareness of differentiated user groups (within policy makers and within stakeholders – different levels/ different policy orientations)
   - Draw in general interested experts and attract specialist academics as well
   - Present a new description of the CCS (non-siloed/blurred boundaries/network-art world and embeddedness)
   - Explain the importance of networks and related typology
   - That the website has a clear hierarchical structure, that it enables multiple potential user journeys.
   - Focus on use of media (not all text-based): videos/podcasts/concept explainers /diagrams

2. **Defining the Unique Selling Points**
   - The use of the network approach
   - Re-valuing existing quantitative data based on non-siloed, innovative definition of the CCS
   - New conceptualisation of the CCS based on deep case studies of real-life networks
   - More inclusive view, covering economic, social and cultural as well as formal and informal modes or modes of production both for profit and non-profit
   - Not just artists but the whole of the production chain
   - Case studies across different CCS across different countries
   - Lessons learned from the responses to the challenges of Covid

3. **Draft structure of web pages**
   - Policy entry
      Depart from policy domains: i) economic (including competitiveness, contribution to local and national economic development); ii) social aspects (e.g. labour conditions); iii) cultural diversity and identity; iv) sustainability (others could be added subsequently)
   - Case study entry
      Pen portraits/vignettes (8-12) of key lessons from various case studies with regard to different industries
      Probably a combination of podcast and brief visuals
      Cross-referencing to network typology and policy domains
   - Network typology
      Set out the six types of networks: illustrating and describing them
      (links back to level 1 and 2). Possible entry point for academics. Link forward to network form, scale, and operation.
      Give names to the different types.

- Picture from existing data : Coverage of existing published statistical data
    Pointing at lack of data on transnational flows of people, profits, and value and also on flexible workforce and project-based working (size, labour conditions, diversity, change/fluidity in organisational forms)
- Revised picture using the project data
    Brings together the network typology and the different industries and the policy implications.
    Consequences for:
    Policy making: which actors, relevant levels and scales, relevant levers
    Stakeholders: mobilising, empowering and redrawing trade associations in the CCS to be able to participate in and co-creating policies
    Communities: mobilising, empowering and redrawing trade associations in the CCS to be able to participate in and co-creating policies
    The EU (in relation to different DGs involved)
- The Matrix - summaries and syntheses
    Present summaries of WP2 and also of the more synthetic WPs (WP3 and WP6)
- The Matrix - the Project reports
    A link to the Repository