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# Cultural and Creative Industries as Innovation and Sustainable Transition Brokers in the Baltic Sea Region: A Strong Tribute to Sustainable Macro-Regional Development

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Abstract: Recent research shows increasing efforts to unfold the potential of Cultural and Creative Industries (CCIs) for regions in order to pursue new sources of innovation, competitive edge and to manifest sustainable and inclusive growth paths driven by creativity. Due to its strong commitments to the Sustainable Development Goals (SDGs) of the United Nations, on the global level, the Baltic Sea Region (BSR) has become a role model in sustainable development. Yet, individual BSR countries face challenges in the implementation of those goals. In this light, by building on the intermediate results (2017-2020) of two EU Interreg projects—Creative Ports and CTCC—this research reveals CCIs' potential for sustainable development avenues. The investigation is based on case study methodology underpinned by empirical data gathered from participating Small and Medium-Sized Enterprises (SMEs) and topical experts met during the projects' implementation and study visits. The present multi-project applied research reduces the research-to-practice gap pertaining to the so far underestimated role of CCIs for supporting traditional SMEs in the implementation of their sustainable ideas. Once engaged into cross-sectoral collaboration with traditional SMEs, CCIs become important brokers—sustainable innovation drivers and enablers within regional ecosystems through contribution to environmentally responsible, socially equitable and economically feasible solutions for the business they work with. Thus, on the one hand, CCIs support SMEs in their transition towards more sustainable managerial performance. On the other hand, CCIs overcome disconnection and increase their recognition through new collaboration opportunities, thus providing them with new capitalization avenues on the regional and international level.

**Keywords:** CCIs; macro-region; BSR; SBSR; creative broker; transition broker; sustainable development; SMEs; cross-sectoral collaboration; cross-innovation



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### 1. Introduction

Scholars around the globe have intensively studied Cultural and Creative Industries (CCIs) within the last 20 years due their economic growth potential and their positive impact on innovation, regional competitiveness, identity and, more recently, resilience. Despite growing research and policy interests, there is still no unified definition on CCIs, followed by missing clarity about term use, little explanation and continuous inconsistency and confusion in using corresponding definitions [1]. At the global level, UNESCO defines CCIs as "sectors of organized activity whose principal purpose is the production or reproduction, promotion, distribution and/or commercialization of goods, services and activities of a cultural, artistic or heritage-related nature". Bearing in mind this holistic definition, UNESCO itself acknowledges the elasticity of this definition and pinpoints its localization potential depending either on national, regional or local needs, as well as policy and development discourses [2].

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Indeed, this definition enables us to position the notion of CCIs within the given policy and research realm. The present research was conducted in the frame of two EU regional development projects in the given regional setting, which embraces the precincts of the Baltic Sea Region (BSR) as one of the key macro-regions in the EU and comprises its little fellow—the South Baltic Sea Region (SBSR). As a result, in these regional precincts, CCIs become crucial players for the uptake of regional economy, also strengthening competitive edge, cooperation and internationalization of CCIs themselves. In this localized nexus, CCIs can be linked with those sectors that are introduced in the EU taxonomy as engines of the economy. Considering the given EU projects here, which aim at regional development, the CCIs sectoral coverage in the present research (project) nexus overlap with that introduced by the EU. Therefore, in total, 11 sub-sectors belong to CCIs, among them counting visual arts, performance arts, heritage, film and video, television, radio, games (including software), books and press, design, advertising and architecture [3].

In the EU terminology, CCIs are also referred to as Cultural and Creative Sectors (CCS) and have enjoyed increasing attention in the last 20 years as a source of and strategic resource for innovation, as well as a driving force for entrepreneurial discovery, regional development and competitiveness [4–9]. By scanning the results of the majority of recent European studies about CCIs, their contribution in Europe to the national GDP ranges between 5 and 10%. By contrast, when it comes to the regional level, the enthusiasm about the CCIs' potential remains rather limited and not fully utilized [10–14]. In particular, similar to definitional challenges, it is practically impossible to compare the performance of CCIs and their contribution to regional development due to the heterogeneity in their definition, the prevailing differences in national/regional data gathering systems and the allocation of CCIs to different economic output indicators within the economic regional paradigms [15].

As in other parts of the world, the CCIs play an increasing role for regional economy and Regional Innovation Systems (RIS) in major urban agglomeration areas of the BSR, such as Hamburg, Oresund or Tallinn-Helsinki (known as Talsinki), which record sound economic contributions of CCIs to the regional economy. In the regions, which show good performance tracks so far but face increasing competition, sectoral and multi-sectoral cooperation and holistic engagement become crucial [16]. More to the point, in order to achieve sustainability, competitiveness and growth that go hand in hand, the BSR is bound to face bigger challenges, in particular when it comes to the implementation of the 2030 Agenda in most of the SDGs [17,18] (p. 12; p. 12). Paradoxically, CCIs provide a broader, multidisciplinary understanding of innovation associated with symbolic, aesthetic and semiotic attributes creating value on highly competitive level [19-21] and thus complementing technological innovation development [22] in addition to helping to find solutions for environmental and social policy challenges [23]. In fact, in recent years CCIs became laboratories for studying transformations of modern economies and societies [24] (p. 1). A far lesser tribute of CCIs is observed in remote regions and rural areas of the BSR, where as a result of low geographical, social and organizational proximity, CCIs are more vulnerable and less integrated in industry and wider economy interactions. These practical observations are also underpinned by the research, which supports the authors' recall for a regional renewal of CCIs. As noticed by the authors [25], recent research has revitalized the idea of transferring practice of big cities to regions in which creativity can also take place

Paradoxically, the importance of CCIs on the macro-regional level is rising in policy discourses, especially as part of the process of regional renewal [26] or in face of smart and sustainable EU policy agendas [27–30]. Indeed, within the EU Strategy for the Baltic Sea Region (EUSBSR), CCIs have been recognized as an important contributor to innovation, socio-economic growth and sustainable and smart regional transformation as well as the SDGs of the United Nations (UN) [31]. Despite good efforts made by policy makers, the implementation of CCIs-related policy on the regional level remains rather patchy and disconnected from the regional development nexus as a result of missing strategic planning,

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best practice models and empirical research supporting policy makers in the concerned policy design [13] (p. 537).

Although CCIs have found place in the renewed EUSBSR for the upcoming funding period 2021–2027 within the Priority Area for funding "Culture", little is said about how CCIs can trigger innovation through interventions, cross- and spill-overs or brokerage. In the same manner, no CCIs' positioning or cross-sectoral collaboration vestiges were located under the Priority Area "Innovation" [31] (pp. 60–64). Indeed, shedding the light on this policy agenda and delusive understanding of key competitive strengths and potentials of CCIs, once engaged in cross-sectoral collaboration and cross-innovation, provides a lot of room for critical demarche.

Considering the rapid pace of change and the urge for transformation in an uncertain, volatile, complex and ambiguous environment, it is argued here that resources need to be pulled together that enable outstanding, desirable and customer-driven innovation creation and shared value capturing. Arguably, customer-orientation and development of excellent products and services need CCIs' contribution in order to turn them into high-quality and customized innovation solutions [32] (p. 208) or facilitate interplay of traditional, technology-intensive and service-oriented sub-sectors [33] (pp. iv), thus delivering measurable outputs of innovation, such as tangible products, offerings, services or organizational innovations along with business models, also referred to as "hidden innovation" [34] (p. 17). Much more, in the age of uncertainty, cooperation of traditional businesses with CCIs appears to be promising, since it results in more innovation solutions [35] (p. 169) and paves the way for cross-sectoral value chains emergence, which in turn, act as a source of competitive advantage and future decision making ([36] (p. 227); ([37] (p. 10) as well as optimize innovation outputs and marketing [38]. Here, CCIs operate as active players in local innovation systems [39] (p. 4) and as intermediaries underpinning the flourishing of non-technological and organizational potential for innovation [40] (p. 480).

In this regard, the authors of this contribution postulate the research-to-practice related problem as one residing in a low policy ability to "avoid" ignorance on CCIs and silo thinking when it comes to CCIs' innovation potential on the individual regional (NUTS-2) and macro-regional (BSR) levels [41] (p. 119); [42] (p. 618); [43] (p. 2424); [44] (p. 555); [14] (p. 2). This paper points to the lacuna of scarce research and scratchy empirical foundation pertaining to CCIs' potential of acting as brokers and intermediaries on a firm-level, in particular contributing to regional innovation (product/service innovation) development [35] (p. 171), transferring knowledge within the regional innovation process [32] (p. 213) and involving users in this process [29] (p. 6), thus leading to more co-creation. Next to the research nucleus, the policy confirms that low cross-sectoral collaboration and engagement of CCIs in cross-sectoral activities are linked with lack of awareness from both sectors, communication and working methods [13] (p. 24) and emerge as an effect of low cooperation and missing network structures [45] (p. 235). Low potentials are also driven by increasing complexity of societal challenges and speed of technological advances [46] (p. 12).

In this light, the present study aims at answering the research and practical question on how CCIs can be successfully engaged as creative brokers in diverse collaboration frameworks (firm-level, cross-border, macro-regional and global) and enable creativity-driven sustainable regional growth? What are key patterns of creativity-driven sustainable innovation and sustainable transition in the BSR? How can CCIs' potential be anchored and in which areas of performance? By answering these questions, the present research postulates itself somewhere on the crossroads of traditional innovation development and a growing interest on CCIs' catalyst and brokerage effects in the regional nexus—would they act as drivers, connectors or integrators for the purpose of sustainable innovation development and search of problem/idea solutions of economic agents. The research can be parsed of being collaborative, holistic and novel.

First, empirical data are gathered from the two EU projects implemented in the BSR on cross-collaboration and cross-innovation. Whereas the "Creative Ports" project (2019–2021) is a BSR flagship project postulating strategic roadmap for future CCIs' development in the

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region and focusing on the supply side of brokerage (CCIs), the "CTCC" project (2017–2021) aims at increasing innovation potential of traditional regional SMEs through creativitydriven collaboration with CCIs and thus targets the demand side of brokerage (traditional SMEs). The authors are involved in both projects, therefore a holistic understanding of the entire ecosystem covering supply and demand sides is ensured. Second, being topical and practical pioneers in both Interreg programs, the projects deliver empirical firstmover data on cross-sectoral collaboration and CCIs' brokerage potential for sustainable regional development either on a firm, regional or macro-regional level. The research reveals CCIs' potential of sustainable brokerage and contribution to the achievement of specific SDGs in the BSR, as laid down in the recent EU Strategy for the Baltic Sea Region (EUSBSR, 2021), thus contributing to the ex-ante empirical foundation of the SDGs' achievement and delivering antecedent empirical results towards that. In doing this, this paper can be regarded as a blueprint towards CCIs' research in the nexus of sustainable regional development. As a result, the research extends theoretical discourses on CCIs' role for regional development with the focus on the sustainability strand. Likewise, recent discourses on sustainable development and sustainability theory can be enriched. Finally, economic agents, such as SMEs and freelancers, including policy makers, can benefit from managerial practices and lessons learned in the frame of both projects.

# 2. CCIs within the Placed-Based Theoretical Nexus

CCIs embrace urbanization, tolerance and well-educated people, which have been identified by different scholars as key factors for entrepreneurial growth. There is huge potential of CCIs associated with interdisciplinarity, digital orientation, innovation and entrepreneurial mindset affected by internationalization [47]. Acs [48] and Carlino et al. [49] observed that entrepreneurship and innovation tend to be higher in cities and more densely populated regions. Similarly, van Oort & Atzema [50] found out that entrepreneurship and innovation tend to be higher in more sectoral diversified regions. Thus, urbanization, high innovation potential and highly diversified business structures seem to spur regional development in the context of Smart Specialization Strategies, where entrepreneurial capital and activities are concentrated in urban areas representing growth kernels for CCIs [51,52].

Despite the fact that CCIs streamline development and trade in big cities, creativity can be found in places other than a big city [53,54]. Much more, CCIs also have impact on regional and local economies beyond any specified geographical boundaries, such as clusters [55] (p. 529). Yet, this kind of research is still mushrooming and needs more attention, in particular considering regionalization recalls in policy discourses [56–60]. Whereas there is no doubt on CCIs' contribution to the regional innovation and value added in other sectors, CCIs might have different economic effects, i.e., novelty and efficiency (upstream effects) and value added in traditional and high technology industries, such as manufacturing [59] (p. 345). Despite the positive impact on regional economy, scant attention to CCIs on the regional or local level is associated with missing or not adequate policy actions. Specifically, the past decades' policy measures were oriented to support CCIs in cities and have neglected the distinct questions of the creative countryside. Beyond this, the untapped potential of CCIs on the regional dimension can be linked to lower recognition of CCIs by other industries and the insufficient marketing of CCIs' potential [41] (p. 134). In addition, CCIs' agendas in rural areas have failed to move beyond the mistakes made in urban ones, followed by missing leverage among the knowledge economy, social inclusion and cultural policy [60] (p. 217). Knowledge products, a sense of empathy and inclusion as well as the adequate management of these products are always linked to skills and talent [61] (p. 648). The holistic and multidisciplinary notion of CCIs' collaboration and interdependencies can be also expressed through the concept of creative class, as introduced by Florida (2002) [62], and the call for holistic integration of other sectors of the economy with CCIs. This, in turn, leads to the better commercialization of CCIs' potential, in particular of the digital, media, design and advertising CCIs' sub-sectors [25] (p. 219).

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Bearing in mind any proved impact of CCIs on any geographical agglomeration, main denominator for a CCIs' analysis on different spatial scale are clusters, networks and their relations, e.g., formal or informal collaboration patterns, interdependencies, interpersonal relations. These theoretical concepts form the basis for any CCIs' analysis and understanding of different agglomeration logics [55] (p. 530). As a result, in this sense, any CCIs' potential for the region could be an individual, a firm, a cluster or regional economy or could be perceived through the lens of knowledge spillovers [14,35,63]. These, in turn, emerge as an outcome of formal and informal collaborative modes between CCIs and other firms, networks [64], strategic alliances [65,66] or even user-communities [67]. Therefore, when exchanging and transferring knowledge, methods, tools and perceptions of the environment from their own perspective, CCIs and other sectors engage into cross-sectoral collaboration and develop a cross-innovation process [68,69]. Cross-innovation has numerous advantages, starting with competitive advantage and improved business performance [70–72], higher levels of innovation [73–76] and a sound contribution to environmentally friendly solutions [77].

From the given practical perspective, the BSR is dominated rather by more remote regions with only few urban epicenters of interaction. The lack of big companies leads to another weakness, namely, lower entrepreneurship and innovation dynamics [78,79]. Hence, regional success heavily depends on the entrepreneurial performance, the innovation power and capacity to build networks, public–private partnerships and cross-company cooperation [52]. Existing innovation capabilities in the BSR, human capital and cultural heritage are key drivers for the creative economy [80]. Generally, CCIs thrive in clusters to acquire relevant experience, knowledge and technology and to exchange ideas [81]. However, a prosperous cluster evolvement can only be safeguarded if CCIs apply continuous innovation and CCIs' enterprises participate in innovation networks that can reinforce effects of intersectoral synergy [82,83].

Indeed, the situation in the BSR is very specific. As a result of macro-regional strategies applicable to the region, it must find new ways for sustainable and competitive innovation and growth. The European Council approved the EUSBSR Strategy in 2009, including a communication and an action plan, and can be further investigated in the report "Towards an implementation strategy for the Sustainable Blue Growth Agenda for the Baltic Sea Region" published in 2017 [84]. A Blue Growth includes also Green Growth initiatives and incentives. The BSR Blue Growth Agenda sets the frame and envisages future economic development in the BSR so that SMEs around the Baltic Sea have to deploy their entrepreneurial activities and development measures in accordance with the Blue Growth objectives towards sustainability, greener business operations and waste reduction. The easiest form of fulfilling the Blue Growth objectives is the dematerialization of goods and services, i.e., the servitization of products [85].

As the literature shows, recent contributions showcasing the role of CCIs in crosssectoral collaboration paradigm or engagement into brokerage interactions are seldom when it comes to recent entries [86–91]. This underpins the current research journey and spurs the digestion of this role of CCIs for regional innovation. That, in turn, would facilitate and accelerate the generation of regional innovation and regional innovation capacity by providing collaborative platforms and stimulating involvement of different actors into development process [92] (pp. 21–22), thus paving the way for the BSR to become a giant in green technology and an epicenter of innovation and growth by 2050 [93] (p. 8). The policy supports a growing need to establish brokering and collaboration networks between CCIs and other sectors to drive innovation, parse market potentials and perceive creativity as an asset in the entire ecosystem [30,94] (p. 1); [29] (p. 25). In the Council Conclusions on CCIs' cross-over effects aiming at innovation, economic sustainability and social inclusion, it is stressed that "(...) there is a lack of awareness of the potential of combining arts, culture and creativity with technology, science and business, as well as insufficient exchange of good practices. In particular, the catalytic effect of culture and the arts on innovation in all sectors is still underestimated and thereby underused; (...) sectors and policies are still often

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organized in silos, thus limiting the scope for synergies and the emergence of innovative solutions (...)." [95], (p. 13).

Certainly, this unused potential has crucial impact on the BSR and its forecasted innovation performance. In recent years, the BSR was able to build up its good reputation as a flagship macro- or Euroregion in developing sustainable blue innovations [96–103]. Following the latest issue of the "State of the Region Report" [104], the BSR generated, in 2015, an annual GDP of about EUR 2000 billion, which is equivalent to 12.5% of the EU-28 economy. This performance strength is linked with outputs in two key clusters: (a) forestry, furniture and fishing and (b) water transportation, including oil and gas and metal mining.

When it comes to innovation performance, the BSR, and thus the SBSR, is among the top in terms of innovation generation and value creation, e.g., the Global Competitiveness Report 2019 and the Global Innovation Index 2020, where most of the BSR Member States show good innovation performance results. Despite this fact, when downscaling to individual regional performance within the macro-regional (BSR) or cross-border regional (SBSR) perspective, there are crucial disparities prevailing between "old" and "new" Member States, thus leading to asymmetrical development in the BSR as well as the SBSR. This, in turn, poses crucial constraints to the sustainable regional development driven by innovation as well as macro-regional social, economic and institutional integration. Against this background, the investigation of the CCIs' potential within different geographical, social and economic contexts appears much more crucial and is largely supported by both policy and research agendas.

# 3. Research Design: Approach, Methods and Data

According to the European Panorama of Clusters and Industrial Change [105], creative industries are cross-sectoral and therefore belong to the future emerging industries. They intend to capture new development potential to be deployed in the future (p. 34). Creative Industries have experienced the fastest employment growth over 2014–2017, with a 1.8% average annual growth rate, higher wages and higher productivity [106] (p. 38). In this vein, they have enjoyed a lot of research in the quantitative research nexus comparing outputs and potential sources of competitiveness. This situation can be traced back to the fact that in Creative Industries, the large firm effect is dominating, with the exception of two NUTS-2 regions, i.e., Oberbayern and Darmstadt in Europe. In contrast, the large firm effect is prevailing in 14 EU NUTS-2 regions, and in other 10 regions, both effects are positive [105] (p. 52). As a result, this means that the predominance of large firms provides better opportunities for quantitative data availability and gathering. Specifically, quantitative data gathered from big companies or regions from CCIs are ruling when it comes to insights how CCIs are performing and what contribution thereof is on the economy at the general, regional and institutional scale [106,107]. This is true for both older [35,108] and more recent research outputs [109–111].

Therefore, research on emerging industries, and thus CCIs, has been dominated by quantitative studies. In this light, there is a call for qualitative approaches, when it comes to the investigation of relationships (here—cross-sectoral collaboration), network patterns and potentials, as well as knowledge spill-overs [112] (p. 2035). Future research needs to involve sources and forms of innovation of creative entrepreneurs. Daily practices and better understanding should be included [113] (p. 402). Indeed, this research aims at revealing key precincts and frameworks of CCIs to take part in cross-sectoral collaboration and heralds domains on convergence for the partnership between CCIs and traditional industry. As a result, the researchers of this study purport that it is highly exploratory. This is because the research addresses new aspects and aims at reducing gaps [114].

The present research deploys a case study research. It is a cross-project research, as it examines two topical applied research projects dedicated to regional development. Therefore, the multi-case study is based on the Interreg V B project "Creative Ports" (2019–2021) and the Interreg V A project "CTCC—Creative Traditional Companies Cooperation" (2017–2021). In detail, the CTCC project investigates cooperation models between

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creative and traditional companies by developing cross-sectoral innovation in the product, service, organizational and marketing areas (here-demand of creativity by traditional SMEs), whereas the Creative Ports project focusses on CCIs' clustering in the BSR as well as on fostering international business links among the CCIs in the region (here—supply of creativity by CCIs). Using multi-faceted sources of information (individual business cases (traditional SMEs), innovation development projects, expert interviews, direct participation in project innovation sprints, observations of workshops and focus group meetings, secondary data pursuant to individual businesses and involvement of triple-helix actors in the research, i.e., academics, industry and policy makers, the interpretation bias's reduction can be underpinned. In addition, the validity and heterogeneity of the data is assured through data multiplication, thus reducing observer bias. Cases from two projects enlarge the empirical body of research as well as enable within-case and cross-case analysis following the case study content analysis [115,116]. Since the used cases describe a new phenomenon, they are based on abductive reasoning embedded in empirical data and bridge rich qualitative evidence to mainstream deductive research [117] (p. 25). For this purpose, a methodological conceptualization builds up the first step of the research design and enables us to analyze and evaluate the CCIs' potential. In addition, since the research aims at providing not only theoretical but also practical insights and recommendations as a result of applied research projects, pure conceptual arguments are underpinned with illustrations. In this way, this research aims at showcasing the real world and not just the literature [118] (p. 23). Overall, the research focus on current phenomena and addresses research questions of "why" and "how" [119] (p. 2) (rf. Introduction) [120] (pp. 4-6), thus underpinning the rationale of the overall case study methodology deployment. In order to better position the multi-faceted research journey, Table 1 below elucidates the research trajectory.

Since the present research aims at reducing bias as much as possible, the researchers build upon several research methods. Therefore, case studies are supported by expert interviews based on semi-structured interviews as well as direct participation in project innovation sprints, observations of workshops and focus group meetings. In this sense, the researchers are taking part in the below-mentioned research projects. In this, an action research approach can be also applied, as researchers directly involved in the observation and assessment of phenomena underwent learning cycles and integrated them into the research [121]. This approach is also suitable, since it enables us to reveal a holistic and complex view on the phenomena of cross-sectoral collaboration for innovation and to open up opportunities for bridging both science as practices, since the research aims at both scientific and managerial implications, as well as intertwining different research methodology categories [122] (p. 151). As Denzin [123,124] (p. 82) pointed out, a full understanding of a complex contextual set of interrelated phenomena under investigation requires the use of more than one method, or the so-called triangulation or double-source method [125] (p. 153). The double-source method also contributes towards reducing biased information. In the present research, this is ensured by the fact that both researchers are involved in different projects, e.g., one is working in the one, while another works in another project. As a result, data was gathered and analyzed separately first, and second, it was merged, synthesized and accumulated using the identified research gap as the key common thread.

All cases and available data (both quantitative and qualitative) were subject to content analysis [126–128]. For this, thematic coding was applied, including content templates used for discourse analysis of CCIs. For data analysis purposes, the following processes were incorporated: participating in the project, developing templates for data gathering, gathering the data (field research, expert interviews, secondary data), decoding, analyzing the contents and synthesizing, amalgaming and iterating the empirical results with the literature [129]. New insights and future research avenues are touched upon in this paper, too.

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**Table 1.** Overall multi-project research trajectory.

Research Positioning	- Creative Ports	CTCC				
Methodological Item						
Research scope	<ul> <li>Interreg V B project</li> <li>European Regional Development Fund</li> <li>Baltic Sea Region Program 2014–2020</li> </ul>	<ul><li>Interreg V A project</li><li>European Regional Development Fund</li><li>South Baltic Program 2014–2020</li></ul>				
Geographical anchorage	<ul> <li>Baltic Sea Region Member States:</li> <li>Denmark, Estonia, Finland, Germany,</li> <li>Latvia, Lithuania, Norway, Russia,</li> <li>Sweden</li> </ul>	<ul> <li>South Baltic Sea Region: Danish, German, Lithuanian, Polish and Swedish coastal regions</li> </ul>				
Research scale	<ul> <li>4 international arrangement tools:</li> <li>Baltic Home Exhibition</li> <li>Pitching for A Better Baltic Sea</li> <li>ABDC Scanning Tool for CCIs' Internationalization</li> <li>Sustainable Design Pop-Up Lab</li> </ul>	<ul> <li>33 innovation prototypes developed for 32 traditional SMEs from blue and green economy:</li> <li>13 product innovation prototypes</li> <li>9 business innovation models (9 innovation prototypes</li> <li>7 service innovation prototypes and</li> <li>4 marketing innovation (visual identity, internal communication, production cycle improvement and packaging prototypes)</li> </ul>				
Research time lapse	. 2019–2020	<b>.</b> 2017–2020				
Research approach	. Inductive	. Inductive				
Research methods	<ul> <li>15 expert interviews</li> <li>Field observations from workshops and tools' testing</li> <li>CCIs' clusters' shadowing</li> </ul>	<ul> <li>Traditional SMEs shadowing</li> <li>Co-creation (17th-month cross-sectoral collaboration for innovation prototyping)</li> <li>32 interviews with prototyping companies</li> </ul>				
Research data	<ul><li>Qualitative</li><li>Quantitative (secondary)</li></ul>	• Qualitative				
Research techniques	<ul><li>Data analysis</li><li>Explanation building</li><li>Pattern matching</li></ul>	<ul><li>Template analysis</li><li>Prototype content analysis</li><li>Cross-case (prototype) comparison</li></ul>				
Research validation	<ul> <li>Policy makers</li> <li>External experts</li> <li>Data records</li> <li>Multiple-site observation</li> </ul>	<ul> <li>Participatory research</li> <li>Multi-site observation</li> <li>Triangulation (multiple source deployment)</li> <li>External experts</li> </ul>				

**Source:** Compiled by the authors, own illustration.

# 4. CCIs as Sound Brokers for Innovation and Sustainability in the Baltic Sea Region

The scrutiny of the analyzed data enables us to trace CCIs' mediating role in the following two existing and/or emerging socio-economic arrangements. Overall, research results yield, first, grassroots innovation practices on the micro-level (firm level) through CCIs' brokerage. Micro or small enterprises are still unaware of CCIs' potential and their contribution towards boosting the innovation capacity of enterprises. Therefore, from rural regions' perspective, CCIs' integration needs strengthening, and they should be positioned as catalyst for innovation and performance as communicator, connector, mediator and integrator on regional scale. As the results, in particular of the CTCC project and scrutinized innovation prototyping, yield, due to low awareness of CCIs in the region, at the moment

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they mainly engage as communicators. Their role is primarily seen by traditional SMEs in external communication and marketing activities. Second, CCIs' brokerage is underpinned by the brokerage utilization for CCIs' internationalization strategies. Here, from the socioeconomic arrangement perspective, i.e., different collaboration modes' perspective, macroregional internationalization tools, social networks, multi-level governance, absorptive capacity and agent learning are supportive measures that drive not only CCIs' recognition, but also sustainability in terms of social, economic and environmental terms. In line with the existing and growing innovation types, an increasing potential of CCIs is located in the so-called offering and experience innovative solutions domain, in line with Keeley et al. [130]. In addition, both projects yield CCIs' potential as a sustainable transition broker, contributing to the achievement of the macro-regional strategic goals of the EUSBSR and the SDGs of the UN, in particular SDG 8 and SDG 11. Individual results are synthesized in the following way and presented in the two succeeding sections.

#### 4.1. CCIs as Innovation and Sustainable Transition Brokers

Table 2 below summarizes the contribution of CCIs to the development of innovation. Specifically, the specific value added of brokerage can be distilled and showed in a reciprocal perspective, i.e., anchored within a specific sphere of traditional SMEs' performance (industry or sector they are operating in).

Table 2. CCIs as innovation and value creation brokers.

Innovation Type		CCIs' Brokerage Anchorage	SMEs Operation Area	Value Creation for Traditional SMEs
:	Service Channel	<ul><li>Customer recognition</li><li>SME profiling</li><li>Cluster building</li><li>Service diversification</li><li>Social accessibility</li></ul>	• Nutrition	<ul> <li>Strategic positioning</li> <li>Customer/user satisfaction</li> <li>Differentiation</li> <li>Resource efficiency</li> <li>Operational efficiency</li> <li>Market accessibility</li> </ul>
:	Product Service Marketing	<ul> <li>Customer recognition</li> <li>Customer connection</li> <li>SME profiling</li> <li>Environmental consciousness transfer</li> <li>Integrity mediator</li> </ul>	•  Renewable/alternativenergy	<ul> <li>Diversification</li> <li>Differentiation</li> <li>Usability</li> <li>Customization</li> <li>Strategic positioning</li> <li>Resource efficiency</li> </ul>
: : .	Product Service Business model Marketing	<ul> <li>Environmental consciousness transfer</li> <li>Mind changer: waste as a resource</li> <li>Societal responsibility promoter</li> <li>Inclusive thinking proponent</li> <li>Regional identity and wellbeing facilitator</li> </ul>	Marine and coastal tourism	<ul> <li>Environmental responsibility</li> <li>Social equity</li> <li>Shared value creation</li> <li>Customer/user engagement</li> <li>Resource conservation</li> </ul>

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Table 2. Cont.

Innovation Type	CCIs' Brokerage Anchorage	SMEs Operation Area	Value Creation for Traditional SMEs
<ul><li>Product</li><li>Service</li><li>Business</li><li>model</li></ul>	<ul> <li>Environmental consciousness transfer</li> <li>Customer environmental responsibility facilitator</li> <li>Perspective changer</li> <li>Shared value facilitator</li> </ul>	Waterborne and ground transportation	<ul> <li>Resource efficiency</li> <li>Environmental responsibility</li> <li>Differentiation</li> <li>Strategic flexibility</li> <li>Operational efficiency</li> </ul>
• Product	<ul> <li>Environmental consciousness transfer</li> <li>Renewable resources catalyst</li> </ul>	Mobility and accessibility	<ul><li>Usability</li><li>Resource efficiency</li><li>Environmental responsibility</li></ul>
<ul><li>Product</li><li>Service</li></ul>	<ul> <li>Environmental consciousness transfer</li> <li>Integrity and modular systems facilitator</li> <li>Regional identity promoter</li> <li>(Re)use and circularity booster</li> <li>Adaptive capacity and resilience promoter</li> </ul>	<ul> <li>Production in marine/clothing sectors</li> </ul>	<ul> <li>Diversification</li> <li>Strategic positioning</li> <li>Resource conservation</li> <li>Environmental responsibility</li> <li>Functionality</li> <li>Usability</li> </ul>

**Source:** CTCC project, compiled by the authors, own illustration.

A thorough analysis of the innovation processes throughout the entire cross-sectoral collaboration cycles with all SMEs revealed that CCIs act as brokers in all innovation prototyping projects, but their brokerage contribution differs. Mainly, CCIs' brokerage is evident in providing creative services relating to the profiling of SMEs (visual/narrative, marketing and customer/user engagement). Considering SMEs from different sectors, i.e., marine-borne (blue economy) or tourism, renewable energy (green economy), all "traditional" SMEs are willing to engage in cross-sectoral collaboration to improve their performance, yet the openness among the green economy SMEs tends to be higher. In addition, all "traditional" SMEs benefit from creativity that contributes either to social (inclusion, integrity, consciousness), environmental (responsible resource use and reuse) or economic (resource efficiency, resilience) sustainability.

All the important economic sectors of the BSR—marine-borne and maritime-related activities, tourism, production and mobility as well as energy supply—benefit from CCIs' brokerage. A special tribute of CCIs is associated with their contribution to sustainable development on the regional level, when they engage in supply chain relations. All value creation for SMEs recorded in the CTCC project facilitates, as can be seen in the column on the right side of Table 2, avenues towards sustainable development. This is particularly true for the transportation, mobility, production, tourism, nutrition and digitalization sectors that are the backbone of the BSR, as well as those areas that are lagging behind and need to accelerate development in order to stay competitive. When it comes to the SBSR, with more remote areas and peripheral individual regions, the challenging nature intensifies and the needs of economic actors and other ecosystem agents multiply. In this vein, the role and integration of CCIs become more essential. Furthermore, the readiness of 32 participating companies to develop innovation prototypes in these concerned fields, be they incremental or radical, also imply the highest demand for development and innovation in these economy sectors from the bottom-up perspective.

With the support of CCIs, SMEs in traditional sectors are provided with knowledge and tools that enable such SMEs to transform to sustainable ones and integrate sustainability mindset into incremental step-by-step actions on the operational and strategic levels. Sustainability is a key priority on policy and business agendas, in particular, the compliance with environmental, social and economic sustainable regulative frameworks. As a result,

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Table 3 below shows how CCIs are able to pave the way, amplify or become essential forces for sustainable and responsible innovation development. As already mentioned, in the CTCC project, SMEs address immanent challenges in areas that need sustainable solutions the most. Transportation, tourism, nutrition and production are sectors that are still regarded as the main sources of environmental pollution and adverse environmental effects. As a result, they need to switch to more sustainable operations, sustainable thinking and mindset facilitation. In this sense, through the integration of CCIs in all 33 innovation prototyping processes, the research reveals sustainability and thus claims support of CCIs in transition to the following sectors/areas of operation:

- sustainable nutrition (agriculture, food processing, plastic-free packaging);
- renewable/alternative energy supply (solar and wind energy solutions);
- sustainable marine and coastal tourism (rural, regional identity tourism);
- sustainable waterborne and ground transportation (electric tricycles,);
- sustainable passenger mobility and accessibility (solar-powered city catamarans);
- sustainable production (clothing, shipbuilding; consumables);
- sustainable servitization (software solutions; customer self-configuration tools for wind energy consumption; house/garden projection; space organization; efficient resource deployment and utilization; circular solution for using recycled plastic for 3D printing).

The particular strengths of CCIs reside in their ability to support human-centric approaches, to sensitize and empathize with customers/users and their easier involvement and perception of reciprocal interactions within the ecosystem, thus reinforcing fully-fledged sustainability achievement in social, economic and environmental domains. Finally, environmental consciousness, ecological robustness and resource conservation are crucial drivers for and enablers of sustainable transitions that are primarily integrated by CCIs through perspective change, inclusive thinking, democratization and liberalization of a particular problem or challenge. In this sense, the research yields CCIs as actively engaged brokers in innovation development processes and cross-sectoral collaboration arrangements as well as those fulfilling the following key innovation value creation functions:

- CCIs as connectors in innovation through their ability to connect different spheres
  of the ecosystem, respective ecosystem actors and interdisciplinary knowledge. In
  this, CCIs build up networks and connect actors that need to be brought together for a
  specific goal.
- CCIs as integrators in innovation, through bringing together and accumulating multidisciplinary expertise and applying, once integrated, transdisciplinary approaches for problem solving or idea generation. This leads to a multi-angle perception of the given problem and facilitates holistic ideation processes, followed by inclusive and liberal mindsets.
- CCIs as mediators through their nature and impetus for conflict resolution. CCIs act
  to decode, communicate, translate and coordinate innovation development (in visual,
  vocative, narrative ways), solve problem/challenge or participate in idea maturing
  processes, in particular, due to their inclusive virtue.
- CCIs as system changers through accessibility to and reach out of all affected actors of
  a particular given problem/idea, thus supporting sustainable ecosystem development
  and acting as system change compass that contributes to recovery, resilience and
  growth.

Overall, CCIs' role within innovation paradigm can be expressed using an umbrella term "catalyst", as they amplify positive events, deliver synergy effects, drive, enable, maintain and sustain interactions of the ecosystem actors. In this manner, the present research supports the preceding research on value creation through creativity integration, contribution to strategic strength in shifting paradigms, complex and ambiguous systems [97]. Furthermore, CCIs' role as brokers, connectors, collectors and mediators [86] is enhanced

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by managerial and practical insights, thus confirming their mediating functions in practical innovation development.

As a result, the research contends that CCIs acting as brokers make a colossal contribution to sustainable transition in the region, either on local, cross-border or macro-regional level. In particular, this contribution is visualized via reciprocal gains of CCIs' brokerage for innovation measured on a global level, i.e., against the SDGs of the UN, in particular those, that are applicable for the BSR, on the one hand, and gains on a macro-regional level supporting achievement of the goals as set in the EUSBSR (2021) on the other hand. The contribution of CCIs in developing demanded and sustainable innovations is expressed through "+" marking a gain/contribution towards achieving goals/objectives either on the global and/or macro-regional scale, as shown in Table 3 below.

**Table 3.** CCIs as sustainable transition brokers.

					ıl Level f the UN	[				-Regiona BSR Obj	
CCIs' Value Creation	SDG 2    Zero Hunger	DG 7    Affordable and Clean Energy	SDG 9    Industry, Innovation and Infrastructure	SDG 11    Sustainable Cities and Communities	SDG 12    Responsible Consumption and Production	SDG 13     Climate Action	SDG 14    Life below Water	SDG 15    Life on Land	Save the Sea	Increase Prosperity	Connect the Region
Sustainable Nutrition	+			+						+	
Renewable/Alternative Energy Supply		+	+	+		+				+	
Sustainable Marine and Coastal Tourism				+	+		+	+	+	+	+
Sustainable Waterborne Transportation				+		+	+		+		+
Sustainable Ground Transportation				+		+		+			+
Sustainable Passenger Mobility			+	+		+	+	+	+		+
Sustainable Production			+	+	+	+				+	
Sustainable service solutions		+	+	+	+	+				+	+

**Source:** Compiled by the authors, own illustration.

In order to trace the contributions to both policy frameworks (SDGs of the UN and the EUSBSR), the 33 developed innovation solutions of participating SMEs in the frame of the CTCC project were grouped using either sectoral or performance output allocation to mark a certain contribution, as shown in the listing above. Using the available matrix in Table 3, it can be highlighted that the highest contribution of CCIs through innovation brokerage is linked with the SDG 11 Sustainable Cities and Communities, followed by the SDG 9 Industry, Innovation and Infrastructure and SDG 13 Climate Action. The contribution to

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other SDGs is more or less evenly distributed. Similarly, on the macro-regional (BSR), CCIs mainly contribute to the two key objectives—Increasing Prosperity and Connecting the Region. Indeed, this insight corresponds with the most prioritized economic activities of the region. Therefore, CCIs' contribution towards sustainable transitions could be enlarged in these areas and cross-pollinated to other spheres of economic activity that gained less attentiveness.

Overall, the research yields that, due to their brokerage, CCIs are strong catalysts and essential partners in environmental and digital transition that is anticipated on the Pan-European level, amplified through the European Green Deal 2020 Strategy and Reinforcement of the SDGs of the UN. A special tribute of CCIs in sustainable development trajectories might be connected with the holistic and interdisciplinary nature of CCIs' engagement, in particular, the development of tailor-made innovation solutions meeting demands of society, environment and businesses; developing customer-attractive and appealing integrative solutions; facilitating emergence and maintenance of networks and clusters, smoothening communication, empathy, wellbeing; optimizing work processes, avoiding conflicts as well as strengthening exploitation of the results, and thus innovation.

## 4.2. CCIs' Brokerage Internationalisation—Reinforcing Sustainable Transition

Once SMEs are able to deliver economic outputs and innovations, they must be captured on the market in order to enable innovation exploitation and commercialization, i.e., innovation to become a true one. In the following Table 4, internationalization tools are presented using place-based and institutional settings, followed by showcasing values resulting thereof.

**Table 4.** CCIs brokerage reinforcement through internationalization tools.

Iı	nternationalization Arrangement Framework	Internationalization Tool	Value Generation and Target Groups		
	Market-Based Enterprise/Organization	Baltic Home Exhibition	<ul> <li>Placed-based marketing</li> <li>Place-based branding on regional industry sectors</li> <li>Networking in virtual reality</li> <li>SMEs, CCIs</li> </ul>		
	Agent Cognition and Learning	Pitching for A Better Baltic Sea	<ul> <li>Wicked problems solving</li> <li>Contribute to the SDGs for climate change and sustainability</li> <li>Provide avenues for innovation and investments of the future</li> <li>SMEs, CCIs, incubators, policy makers</li> </ul>		
	Social Networks	ABCD Scanning Tool for CCIs'     Internationalization	<ul> <li>Provide priority of needs in CCIs</li> <li>Provide possible solutions to expected value</li> <li>Interaction and sustainable networking</li> <li>SMEs, CCIs, incubators, training agents</li> </ul>		
:	Social Networks Market-Based Enter- prise/Organization/Coordinating Institution	Sustainable Design     Pop-Up Lab	<ul> <li>Prototyping lab for sustainable design and SDGs</li> <li>Network and exchange of ideas</li> <li>SMEs, CCIs, incubators, policy makers</li> </ul>		

Source: Compiled by the authors, based on Creative Ports project, own illustration.

Displayed internationalization tools strengthening CCIs' brokerage potential were developed in the framework of the Creative Ports project. Their feasibility was underpinned by comparing and validating them against lessons learned from the CTCC project. By using a conceptual framework approach, the research avoids simple narration and iteration

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that is available on the Creative Ports Website and provides rather a systemic and practical positioning of the internationalization tools within the topical nexus.

Taking the view of all internationalization tools, their confirmed or projected values (as the Creative Ports project is still running) into account, the research underpins the imperative of institutional arrangements within the place-based nexus. For international tools to be successful, other tools on the micro- and meso-level (Creative Audit Tool and Creative Broker Network, as developed within the CTCC project, but presented in other topical research papers) can, or even should, be more extensively utilized to enable innovation being valuable, needed, responsible and sustainable. The provided four internationalization tools respond to the demand as expressed by CCIs in their internationalization pathways or when seeking for recognition among other industry sectors. Whereas the ABCD Scanning Tool for CCIs' Internationalization is dedicated to strengthening formal and informal collaboration patterns, Sustainable Design Pop-Up Lab and Pitching for a Better Baltic Sea are dedicated toward engaging in cross-industry collaboration and solving societal challenges. Finally, Baltic Home Exhibition is a platform dedicated to market and capitalize on innovative solutions developed by CCIs and cross-industry partnerships.

The present research yields that CCIs' potential for the regional economy should be grasped and revealed in a two-pronged way: via placed-based and institutional arrangements. Only the combination of both enables a continuous integration, recognition and utilization of the CCIs' potential as innovation and sustainable transition brokers serving regional needs and thus delivering the shared value.

## 5. Discussion

Topics, such as regional innovation platforms and cross-sectoral cooperation have been continuously present on the European policy agendas with an emphasis on sustainable economy [131]. Hence, when applied to the BSR, the EUBSR Strategy sets the framework for the specific circumstances, infrastructure, regulations and practices affecting the intermediary's role towards Blue and Green Economy in the BSR. More research is required to understand how regional contexts offers the basis for venture creation and the role for regional policy in supporting creative business to access critical international assets and sources of innovation [132]. Under this consideration, CCIs possess ability to innovate traditional industries, enabling regional innovation strategies through the evolution of entirely new creative services and market niches realizing servitization concepts [133].

CCIs can take over the role as brokers or mediators between classical products and the requirements of the Blue and Green Economy. This consideration is based on the observation that in the classical development processes, design just determinates the form, but creativity can do much more: it can promote manageability and improve understanding. Hence, creativity can change the entire process, implement new methods, influence strategies and thus change the entire development process of a product or service towards sustainability.

Future products have to comply with expectations of shared and sustainable economy, with a change in traditional manufacturing paradigms towards green, resource saving and sustainable production. The realization of these requirements implies the development of solutions that apply approaches beyond traditional engineering, rather than related to design thinking concepts. Here, CCIs offer a new opportunity by facilitating the servitizing trends with service design solutions, as well as the integration of soft requirements stemming from the Blue Economy into innovation and new product development. Huge potentials are discovered for specific development opportunities for the SME sector, which copes well with the BSR business structures that are dominated by networks of SMEs due to the lack of big companies. The ongoing transformation of traditional industries in the BSR with CCIs' support towards the Blue Economy through digitalization and increasing levels of servitization can be studied in a variety of across the Baltic Sea.

Indeed, as the current projects' results showcase, innovation development and capacity building in traditional-sector SMEs deliver multiple effects and are in line with some

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relevant key trends in scientific and policy discourses. In particular, by enhancing product portfolios with business models, SMEs increase their competitive edge and customer satisfaction. With that, SMEs are more flexible to move on the market and/or adapt to the changing market conditions—transformations, in particular, when digital services are at the core of SMEs' business portfolio. These potentials have been recently highlighted by the topical policy papers on CCIs [29] (p. 49); [30] (p. 7); [134]. In this line, the development of product-related services strengthens SMEs' performance, in particular long-term profitability, brand development, their differentiation and positioning on the market. With their improved innovation capacity in the service product and portfolio, regional SMEs are also capable of improving their organizational culture, which is crucial in transformation, as the recent research shows [98,135], as well as underpins marketing and brand building through customer loyalty to an organization and its system of values. Indeed, the recent European reports on clusters and industrial change pinpoint Creative Industries as being one of the 10 future emerging industries, which are better equipped to respond to uncertainty, potential utilization and employment growth [136]. In addition, regional SMEs learn to engage in new business partnerships with Creative Industries and benefit from the application of sector-wide tools and methods within the innovation development. Importantly, SMEs obtain access to knowledge and information that does not reside in-house, which makes them stronger in their performance, as pinpointed in the study implemented by the KEA [29] (p. 49).

In sum, the developed platforms and networks (CTCC and Creative Ports projects) have seen, so far, positive results from cross-sectoral collaboration and innovation development in the short-term, where innovation prototypes are developed with SMEs. It was clearly demonstrated that, although not simple, cross-sectoral collaboration leads to success—tangible solutions, improved capacity building, absorbed knowledge and toolkits from other industries enabling new business portfolio diversification, differentiation and better value proposition for customers and users. This, in turn, strengthens competitive edge of our regional SMEs on macro-regional, national and international arenas. CCIs support traditional businesses with better visualization and emotional presentation of their innovation products, services, business models or processes. In addition, the CTCC and Creative Ports projects support internationalization of SMEs as well as strengthening of cross-sectoral and cross-border relationships. As the projects demonstrate, co-working for innovation purposes, exchanging of practices via trainings and study visits, changing perspectives and stepping out of comfort zones, thus leaving aside geographical, cultural and social distance, all open up new horizons for both the CCIs and the traditional SMEs to cooperate, facilitate transitions towards sustainability and market their products.

As a result, this underpins the synergy effects for the Blue and Green Growth. Significant contribution to sustainable Blue and Green Growth by regional SMEs that develop sustainable and user-driven products also includes the recognition and manifestation of the given environmental, social and other concerns of society and searches for the ways to better respond to the given challenges that the Baltic Sea region is facing. With this, the projects not only support recent policy trends on the capitalization of CCIs' potential, but also supports research on Responsible Innovation, in which design and creativity play crucial roles [137]. The dovetailing of different sectors' experts, actors of different institutions and governance structures, such as the quintuple-helix approach, within the innovation prototyping project facilitates market entry and capitalization of the developed innovation outputs, as they tend to comply with any environmental regulations and any policy expectations, fulfil the market's needs through the involvement of customers and users as well as deliver knowledge and skills in demand on the market through the involvement of higher education and research institutions. Next to this, innovations delivered as a result of cross-sectoral collaboration integrates within the natural and social ecosystem by supporting preservation of natural resources, reusing existing resources and saving resources that are rare in the BSR.

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# 6. Concluding Remarks and Future Research Outlook

The BSR is among the most innovative and most advanced Blue Economy regions in the world. This fact surprises especially because the region is dominated by the SME sector, its heterogeneous business structures, low population and its mixture of old and new European economies. The first reason for this outstanding performance lies in its long, common history leading to common business cultures and facilitating cross-cultural cooperation. Second, the easy cross-cultural similarities come along with relatively high-developed cross-sectoral cooperation abilities resulting in successful cooperation of traditional industries with CCIs.

This research answers the research-to-practice questions raised in the frame of the implemented two applied research projects, "Creative Ports" and "CTCC", as well as within this specific research journey. In this regard, first, CCIs can be successfully engaged as creative brokers for innovation and sustainable transition in diverse collaboration frameworks. CCIs are engaged using either institutional arrangements (formal/informational collaboration modes), building upon socioeconomic arrangements, such as capacity building, learning and exchange or enjoying third-party (external policy/academic/business) support that enables endorsement and marketing of long-term benefits that result from cross-sectoral collaboration for individual (firm-level) and regional (sectoral/societal solutions) purposes. Second, CCIs yield the highest tangible contribution towards sustainable transitions and sustainable development in sectors that are engines of the region. The demand expressed by the SMEs in participating in the applied research projects supports SMEs' endeavors in searching for new sources and ways for sustainable development. Finally, all cross-sectoral innovation partnerships among CCIs and other industries mainly support the implementation of the SDGs 11, followed by the SDG 13 and SDG 9. With sound contribution to these specific SDGs, the BSR is able to expand and cultivate its contribution towards the Agenda 2030 of the UN. From the macro-regional perspective, CCIs contribute to the prosperity and connectivity of the BSR by improving transport and mobility solutions in terms of their environmental performance as well as supporting skills and talents as well as knowledge outputs developed in the region.

The present research contributes towards sustainable development on a regional level through formal and informal collaboration modes among CCIs and other industry sectors, e.g., Blue and Green Economy SMEs. The results reveal that CCIs act as both innovation and sustainable transition brokers. In doing that, they contribute to firm-level, industry or societal innovation. On a firm-level, CCIs mainly contribute in supporting traditional Blue and Green Economy SMEs in developing blue and/or green product innovations, followed by business model, service and marketing innovations. This insight endorses the urgent need of regional SMEs in searching for new pathways to develop innovative and sustainable solutions. With innovation solutions developed in collaboration with CCIs from mainly design, architecture, advertising, software and games sub-sectors, traditional SMEs are able to make substantial contribution towards achieving the SDGs of the UN and implementing the Agenda 2030 on a firm level.

The discourse on the SDGs of the UN with the contribution of CCIs is novel on the macro-regional arena. There are no empirical research entries showing how this contribution can be practically achieved. So far, just policy frameworks and strategies are existing showing roadmaps and giving recommendations for sustainable mindset building and calling for an action. This topical research is just at the grassroots level. The present research is also rich due to the fact that it utilizes data from two different applied research projects covering both supply and demand sides in terms of CCIs' brokerage, i.e., those that need creative support, such as traditional regional or local SMEs, and those that supply creative potential, namely, CCIs. Therefore, the current lessons learned and potential future forecasts can be grasped from this research contribution.

The present research contributes, therefore, to both theoretical and practical discourses. The research contributes to the CCIs' theoretical discourses by expanding their notion for sustainable development and cross-sectoral collaboration patterns. In addition, discourses on sustainability theory can be expanded with a strand of creativity, which indeed plays

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a crucial role in achieving individual or common societal goals. So far, sustainability discourses are driven by rather classical theoretical contributions deriving from organizational research. From the managerial perspective, the research reveals how sustainable innovation emerges as a result of cross-sectoral collaboration within the challenging social ecosystem by supporting the preservation of natural resources, reusing existing resources and saving resources that are rare in the Baltic Sea Region.

The research is, however, not free from limitations. Although both projects are referred to as pioneering ones in terms of their topicality and attentiveness of current challenges prevailing in both CCIs and other traditional industry sectors, a more longitudinal research is needed over the decade of the next programming period of the EU policy dedicated to the regional development from 2021 to 2027. Other regions and regional settings could benefit from this research in absorbing lessons learnt from the BSR region, in particular with regard to the implementation of the macro-regional strategies and contribution of the CCIs to the achievement of the Agenda 2030, on the one hand, and firm-level cross-sectoral collaboration modes on the other hand.

Future research avenues will need to focus on more informal cross-sectoral collaboration modes, in particular examining the social and cultural aspects that might either amplify or hamper cross-sectoral collaboration over longer periods of time and iterations of cross-sectoral collaboration patterns. In addition, more in-depth research is needed on the inception of cross-sectional collaboration for innovation and what principals, activities and methods could facilitate the engagement, mutual trust and recognition of both sides. Likewise, succeeding research should increase the scale of the present research by analyzing and evaluating more cross-sectoral research projects within and beyond the given regional setting of the BSR.

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