

The Impact of Creative Contexts: An Application Cases Review

Original

The Impact of Creative Contexts: An Application Cases Review / Degiacomi Garbero, Sergio; Remondino, Chiara Lorenza; Tamborrini, Paolo. - In: DIID. DISEGNO INDUSTRIALE INDUSTRIAL DESIGN. - ISSN 1594-8528. - ELETTRONICO. - 83:(2024), pp. 94-107. [10.30682/diid8324g]

Availability:

This version is available at: 11583/2996431 since: 2025-01-09T14:23:00Z

Publisher:

Bologna University Press

Published

DOI:10.30682/diid8324g

Terms of use:

This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

Publisher copyright

(Article begins on next page)

diid

83

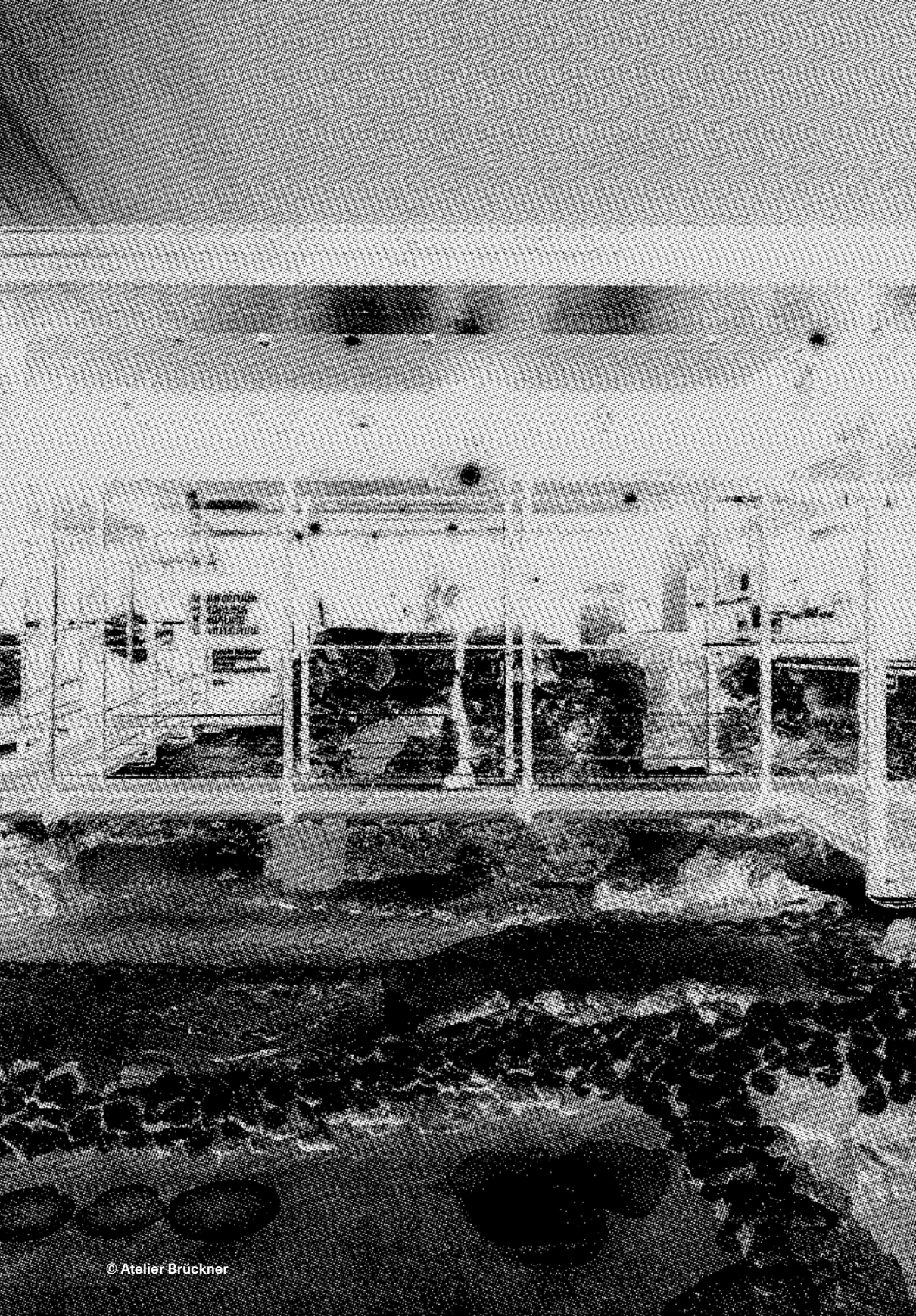
disegno industriale
industrial design

theoria
pòiesis
praxis

diid.it

Luca Baldini, Alberto Bassi, Sonia Belhaj, Angelo Bucci, Mario Buono, Sofia Collacchioni, Maria Claudia Coppola, Lucilla Calogero, Marcia Regina Diehl, Luca D'Elia, Sergio Degiacomi Garbero, Carlo Franzato, Valentina Frosini, Debora Giorgi, Lorenzo Imbesi, Silvana Kühtz, Elena Laudante, Beike Li, Elena Aversa, Claudia Morea, Michele Mauri, Birgit Mager, Elena Metzdorf, Maria Laura Nappi, Carla Paoliello, Le Chi Quynh, Corbin Raymond, Chiara Lorenza Remondino, Chiara Rutigliano, Paolo Tamborrini, Trinh Hong Thu





Colophon

diid
disegno industriale
industrial design
No. 83 — 2024

Year
XXII

diid is an open access
peer-reviewed scientific
design journal

diid is published
three times a year

Registration at Tribunale
di Roma 86/2002
(March 6, 2002)

www.diid.it

Copyright © 2024
diid disegno industriale
industrial design

Editor-in-chief
Flaviano Celaschi
Alma Mater Studiorum
— Università di Bologna

**Deputy Editor-in-chief
and Managing Editor**
Elena Formia
Alma Mater Studiorum
— Università di Bologna

Guest Editor diid No. 83
Lorenzo Imbesi
Sapienza Università
di Roma

Founded by
Tonino Paris

Associate Editors
Silvia Gasparotto
Alma Mater Studiorum
— Università di Bologna

Viktor Malakuczi
Sapienza — Università
di Roma

Lorela Mehmeti
Alma Mater Studiorum
— Università di Bologna

Elena Vai
Alma Mater Studiorum
— Università di Bologna

Art Director
Davide Giorgetta

Editing Assistant
Olga Barmine

CC BY-NC-SA
Creative Commons
Attribution
NonCommercial
ShareAlike

Publisher
Fondazione
Bologna University Press
Via Saragozza 10
40123 Bologna
Tel. (+39) 051 232 882
Fax (+39) 051 221 019
www.buponline.com
info@buponline.com

ISSN
1594-8528

ISSN Online
2785-2245

DOI
10.30682/diid8324

ISBN Online
979-12-5477-563-9

Cover image
Nøha & Q4II. Sex in the City
Manifesto. DDW24.

Scientific Board

Jimena Alarcón Castro
Universidad del Bio-Bio

Mariana Amatullo
Parsons School of Design
— The New School

Laura Badalucco
Università Iuav di Venezia

Alberto Bassi
Università Iuav di Venezia

Anna Lalanne-Bernagozzi
École Nationale Supérieure
des Arts Décoratifs

Paola Bertola
Politecnico di Milano

David Bihanic
Université Paris 1
Panthéon-Sorbonne

Andrea Boeri
Alma Mater Studiorum
— Università di Bologna

Olindo Caso
Delft University
of Technology

Manuela Celi
Politecnico di Milano

Erik Ciravegna
Alma Mater Studiorum
— Università di Bologna

Mirko Daneluzzo
Dubai Institute of Design
and Innovation

Claudia De Giorgi
Politecnico di Torino

Alessandro Deserti
Politecnico di Milano

Dijon De Moraes
Universidade do Estado
de Minas Gerais

Franco Fassio
Università di Scienze
Gastronomiche di Pollenzo

Daniele Fanzini
Politecnico di Milano

Lorenzo Imbesi
Sapienza Università
di Roma

Edu Jacques
SDRJ

Luigi Ferrara
George Brown College

Carlo Franzato
Pontificia Universidade
Católica do Rio de Janeiro
— PUC-Rio

Giuseppe Furlanis
ISIA Design Firenze

Claudio Germak
Politecnico di Torino

Valentina Gianfrate
Alma Mater Studiorum
— Università di Bologna

Miaosen Gong
Jiangnan University

Christian Guellerin
École de Design Nantes
Atlantique

Roberto Iñiguez Flores
Tecnológico de Monterrey

Çiğdem Kaya
Istanbul Technical
University

Giuseppe Lotti
Università degli Studi
di Firenze

Mario Losasso
Università degli Studi
di Napoli Federico II

**Guilherme Englert
Corrêa Meyer**
Universidade do Vale
do Rio dos Sinos

Roberto Montanari
Università degli Studi
Suor Orsola Benincasa
di Napoli

Nicola Morelli
Aalborg University

Andrew David Morrison
Oslo School of Architecture
and Design

Spartaco Paris
Sapienza Università
di Roma

Daniela Petrelli
Politecnico di Milano

**Nelida Yaneth
Ramirez Triana**
Universidad Nacional
de Colombia

Andreas Sicklinger
Alma Mater Studiorum
— Università di Bologna

Francesca Tosi
Università degli Studi
di Firenze

Ambra Trotto
RISE — Research
Institutes of Sweden

Michele Zannoni
Alma Mater Studiorum
— Università di Bologna



The Impact of Creative Contexts: An Application Cases Review

Sergio Degiacomi Garbero
Politecnico di Torino
sergio.degiacomis@polito.it
ORCID 0000-0002-5422-753X

Chiara Lorenza Remondino
Politecnico di Torino
chiara.remondino@polito.it
ORCID 0000-0002-1917-3759

Paolo Tamborrini
Università di Parma
paolo.tamborrini@unipr.it
ORCID 0000-0001-7577-7138

Abstract

The article delves into the multifaceted nature of creativity, moving beyond traditional associations of creativity with artistic or cultural disciplines. Instead, it presents creativity as a complex cognitive process essential for addressing multidisciplinary challenges. Drawing from various studies, it emphasises how creativity flourishes in sociocultural contexts and is shaped by both individual learning and group dynamics, such as those described by Florida's concept of the Creative Class.

The dissertation's core focuses on exploring various creative contexts and environments that nurture creativity. The methodology considers a Systemic Innovation Design perspective to analyse thirty application cases of creative spaces, identifying key characteristics and impacts. The results show a clear direction of creative contexts involving multidisciplinary and practice-based actions, with a predominant focus on social and applied sciences.

Keywords

Creativity
Application cases
Creative contexts
Framework analysis
Data visualisation

From Creativity to Creative Contexts

When considering creativity, it is easy to get lost in the maze of clichés, where concepts such as imagination and genius — but sometimes also madness and recklessness — mix with creativity to become one. This can distort the idea, leading to an overabundance of interpretations and, consequently, render it meaningless. In addition, creativity is usually associated with cultural and artistic discipline, clustering it into limited boxes with no opportunities for disciplinary interlinkages (Dumas & Dunbar, 2016). However, creativity from a Systemic Innovation Design perspective (Gaiardo et al., 2022; World Design Organization, 2015) can be defined as a complex cognitive process (Logan et al., 2021) that can manage articulated issues in multidisciplinary scenarios (Dorst & Cross, 2001; Lindberg et al., 2010). Creativity exists in the individual cultural background — and is then fostered by learning specific hard skills — (Černe et al., 2022), becoming a mediating element among people (Iyanda et al., 2017). Lastly, creativity becomes richer and provides valuable impact in diverse sociocultural and disciplinary groups of people designated by Florida (2002) as the Creative Class.

Moreover, the literature highlights how creativity requires a defined context — physical and/or digital — to assume an identity and resilience (Vannini & Piccolo, 2021), an environment in which impacts may assume a qualitative and quantitative value. Although creative places may be erroneously associated with innovative/smart ones, they have their own identity (Visoná et al., 2022). They may include similar traits, approaches, or outputs as other proactive contexts (Gwiażdziński et al., 2020).

For these reasons, this dissertation is interested in exploring the meaning and qualities of creative contexts, providing a series of application cases to analyse, and finally discussing the principal traits of these spaces to define what a creative context could be.

A State of the Art of Creative Places

Literature provides a fruitful panorama of creative contexts. In particular, in applying design principles (Freddi & Salmon, 2019) of research by design (Friedman, 2008), several interpretations of the concept occur. The first suggestion of creative contexts comes from Oldenburg (1991) in *The Great Good Place*. He suggested third places as a sociocultural understanding of all those spaces that do not coincide with the home or the work environment. Third places are non-personal domestic spaces that serve as neutral grounds for inclusivity and equal opportunities. They lack specific physical characteristics, encompassing places such as community centres, coffee shops, parks, and malls. Though conversations represent their primary activity, their impact can be substantial, attracting innovators and potentially becoming hubs for economic development (Jeffres et al., 2009; Lambiri et al., 2007).

Several other interpretations of these places, with a more applied use, were derived from this idea. Another example of creative contexts is smart cities. A smart city (Silva et al., 2018) or even a smart territory (Rosado-García et al., 2021) is an articulated combina-

tion of sociocultural behaviours, urbanisation, smartness, sustainability and quality of life. Through these pillars, personal and collective skills — including creativity — fuel innovation (Landry, 2012). To truly consider a smart city a creative space, human involvement and cultural action must be part of the innovative processes (Gwiaździński et al., 2020). Finally, Allen (2006) integrates this concept and the ability to enhance creativity, interlinking it with the power to impact the global market through a new economy. It can also provide freedom and urban creativity by means of new social and political actions (Evans, 2009).

A further example of creative context that emerges from literature is the *Creative Nest* (Panozzo, 2021). It is described as a proactive context whereby meaningful relationships and collaborations are established. Compared to the other examples — which include a wider area of action such as cities — creative nests are usually defined spaces such as hubs, clusters, districts, or platforms. Design methodologies are implemented in these spaces to produce knowledge, experiences, and practical results — in product, service and system designs. These spaces have a very valuable interest and structured impact. In particular, their management makes activity control and development easy to deal with, while creative skills can be performed freely. This allows a rapid spillover of innovation and crucial knowledge diffusion (Günther & Meissner, 2017).

Lastly, considering this excursus and according to this excursus, the Creative Hubs Report can provide a further definition that may be used both to update the concept of creative context, and to identify a suitable definition for the analytical developments in this dissertation. (Dovey et al., 2016). Creative hubs are dynamic organisations that bring together diverse talents, disciplines, and skills to foster innovation. They often extend beyond a single location, supporting various activities, including non-profit, commercial, part-time, and full-time work. More than just business incubators, creative hubs drive local and regional growth in the creative industries by offering opportunities for work, education, and collaboration. Their flexible and diverse nature enables them to foster vibrant, evolving communities and contribute to innovation, sustainability and economic development.

This overview of the different aspects of creative contexts allows this research to guide the next steps in selecting and analysing specific creative contexts. Application cases will be considered to define a framework for evaluation that focuses on the elements in common, the unique values, and the needs that arise.

Application Case Analysis Methodology

The methodological structure considered an approach to research for designers (Frayling, 1993) through the Systemic Innovation Design methodology (Gaiardo et al., 2022), which involved a mixed-methods design approach of protocol analysis (Tashakkori & Creswell, 2007; Dubois & Prade, 1979) for a list of thirty application cases Fig. 1.

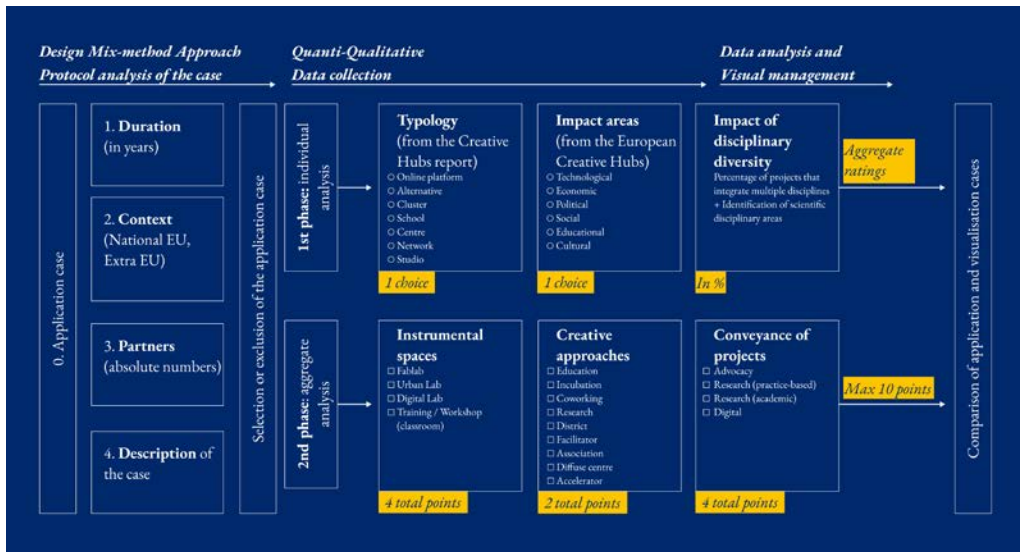


Fig. 1
Methodological structure
of the analysis of applica-
tion cases, by the Authors.

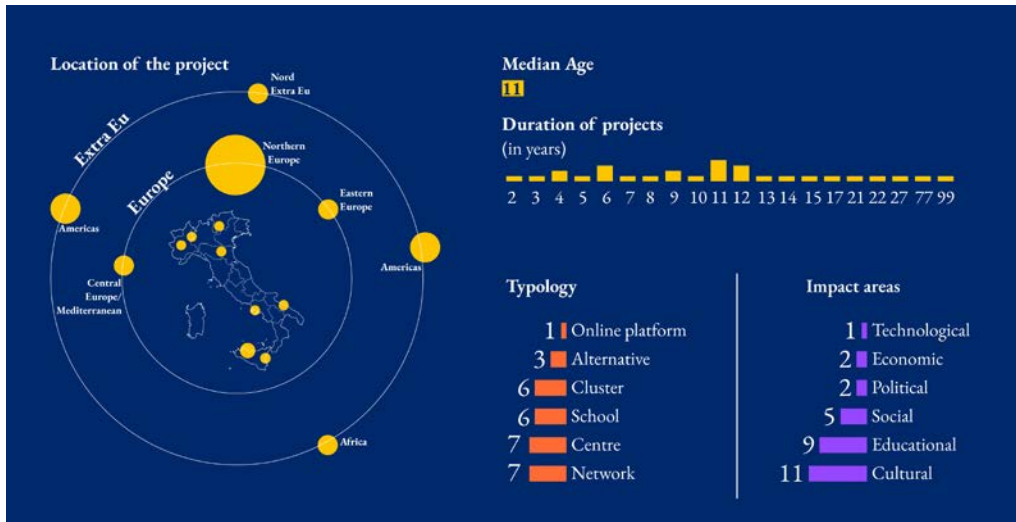
These cases follow the description — according to the state of the art — of creative places. They were identified using definitions from the literature as base guidelines (Leuffen, 2007) applied to a snowballing sampling method (Goodman, 1961), which allowed the identification of further cases based on collaborations or partnerships between the first cases and subsequent ones. They have been adequately selected by fitting the case into the creative typologies (Dovey et al., 2016) and then used as an analytical element. Afterwards, they were studied using protocol analysis (Jiang & Yen, 2009; Afflerbach, 2001; Afacan & Erbug, 2009). A written review of the data was derived from web platforms, interviews, reports, and publications regarding the cases (Cho, 2020; Graesser, 1990, pp. 201-203). This database was reorganised into an initial individual analysis of the cases and a second aggregate analysis.

In the first phase, cases were analysed individually based on multiple criteria. First, a temporal analysis considered whether the projects were active or concluded. A geographical assessment was then conducted, and lastly the number of prominent partners considered. This approach provided insights into the cases and their alignment with creative contexts.

Of the thirty cases that were selected, ten were in Italy, ten in Europe, and ten from a global context. Several considerations emerged from the first process of protocol analysis. Considering the period during which the cases became operative, most of them — from the analysis of the median — started around 2012 and 2013, with a slow but gradual emergence of new projects Tab. I. In this chronological investigation, it is important to highlight certain divergent elements. First of all, there are two examples of academic cases of particular longevity: the Design Academy of Eindhoven, founded in 1947, and the Center for Academic Innovation and Creativity, founded in 1925. A second element that emerges from the analysis is geographical. The European SMATH project was born in Europe, but not in a single country, but rather as part of a network of six coun-

tries: Italy, France, Spain, Greece, Croatia and Slovenia. Furthermore, the project, which began in 2014, lasted seven years, ending in 2020.

The second phase involves conducting a quantitative analysis of the cases by clustering them into specific creative context typologies based on the Creative Hubs Report (Dovey et al., 2016) and their areas of impact as defined by the European Creative Hubs (European Commission, 2017). What emerges is that the majority of the cases fit in the network and centre typologies — both with a total of seven — followed by the schools — with six. Only one of them is considered an online platform. Moreover, the main area of impact is cultural — with eleven cases — followed by educational. Only one case mainly impacts the technological field Fig. 2.



Location	Application cases	Year of start	Typology	Impact area
Italy	Push	2013	Centre	Technological
	C Lab Trento	2017	Centre	Educational
	Costruire bellezza	2014	Cluster	Social
	FEM (Future Education Modena)	2018	School	Educational
	Puglia Creativa	2012	Alternative	Economic
	Diversity Lab	2013	Network	Social
	CreZiPlus	2003	Network	Cultural
	Foqus	2013	Cluster	Social
	Nova	2020	Centre	Cultural
	JO Education Innovation Hub	2010	Online Platform	Educational

Fig. 2 Aggregated dashboard of creative application cases: geography, duration, types and area of impact, by the Authors.

Tab. I Synthesis of the protocol analysis of application cases according to geographical location, time, type of creative place and impact area.

Europe	The European SMATH project	2014-2020 (ended)	Cluster	Cultural
	Design Academy Eindhoven	1947	School	Educational
	Green Leap Research	2012	School	Educational
	Creative sustainability	2018	School	Educational
	Creative Estonia	2009	Network	Cultural
	Creative Denmark	2020	Network	Cultural
	1535 Creative Hub	2011	Cluster	Cultural
	ARTCOR Creative HUB	2019	School	Educational
	CEEIM	2007	Centre	Economic
	City Culture Institute	2012	Centre	Cultural
Extra EU	Armazém da Criatividade	2015	Centre	Educational
	Creative Industries Council	2013	Cluster	Political
	CAIC	1925	School	Educational
	Creative Cardiff	2015	Network	Cultural
	GerHub	2016	Centre	Social
	Creative Hub Ethiopia	2021	Cluster	Cultural
	PretaHub	2002	Alternative	Social
	Asia-Europe Foundation	1997	Alternative	Political
	Mekong Cultural Hub	2018	Network	Cultural
Creative Hub Africa	2022	Network	Cultural	

Furthermore, the main projects carried out by these cases are identified through their descriptions. Drawing from the Creative Class guidelines (Florida, 2002) and the concept of the creative spirit (Goleman et al., 2001), each project is examined based on the number of disciplines involved in its development, explicitly described in the textual contributions of the individual projects or in the results of the projects themselves.

This led to two types of different results. The first is the percentage of creative projects within each application case [Tab. II](#), calculating the percentage of the individual explicitly-multidisciplinary projects for each application case within the total number of projects developed.

Tab. II
List of application cases
and percentage of multi-
disciplinary projects.

Location	Application cases	Percentage of multidisciplinary projects
Italy	Push	100,00%
	C Lab Trento	77,78%
	Costruire bellezza	100,00%
	FEM (Future Education Modena)	100,00%
	Puglia Creativa	100,00%
	Diversity Lab	50,00%
	CreZIPlus	71,43%
	Foqus	50,00%
	Nova	50,00%
	JO Education Innovation Hub	100,00%
Europe	The European SMATH project	56,00%
	Design Academy Eindhoven	36,17%
	Green Leap Research	100,00%
	Creative sustainability	100,00%
	Creative Estonia	86,36%
	Creative Denmark	100,00%
	1535 Creative Hub	100,00%
	ARTCOR Creative HUB	60,00%
	CEEIM	100,00%
	City Culture Institute	85,71%
Extra EU	Armazém da Criatividade	100,00%
	Creative Industries Council	58,00%
	CAIC	66,67%
	Creative Cardiff	45,45%
	GerHub	100,00%
	Creative Hub Ethiopia	100,00%
	PretaHub	100,00%
	Asia-Europe Foundation	100,00%
	Mekong Cultural Hub	50,00%
	Creative Hub Africa	80,00%

The outcome shows a large majority of projects oriented towards multidisciplinary, with some shortages, particularly in the artistic/academic world.

The second is overall data on the types of disciplines involved across all application cases. This analysis showed a large predominance of social disciplines and a solid presence of applied hard disciplines Tab. III, Fig. 3. At the same time, there was a clear lack — apart from the world of information technology — of hard, pure disciplines Fig. 4.

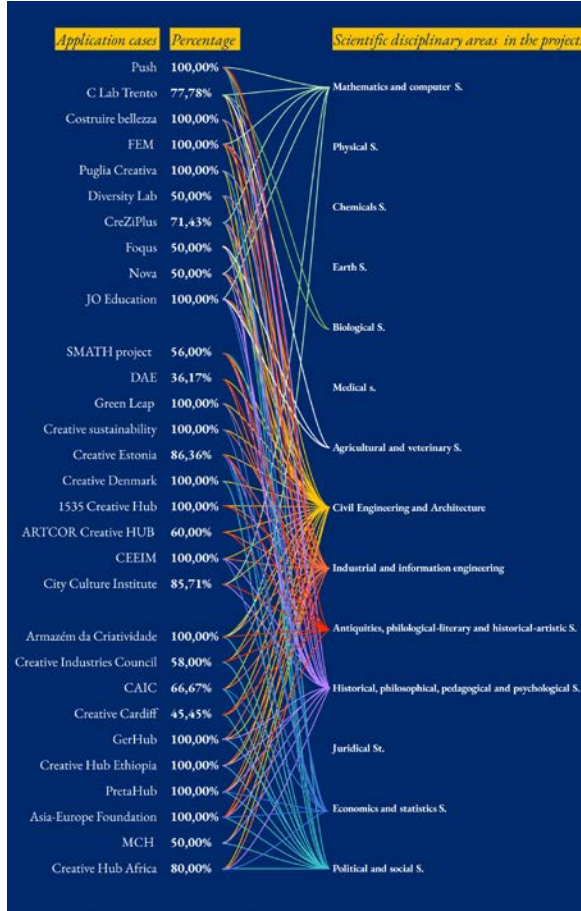


Fig. 3 Distributed visualisation of application cases and scientific disciplinary areas involved within their projects, by the Authors.

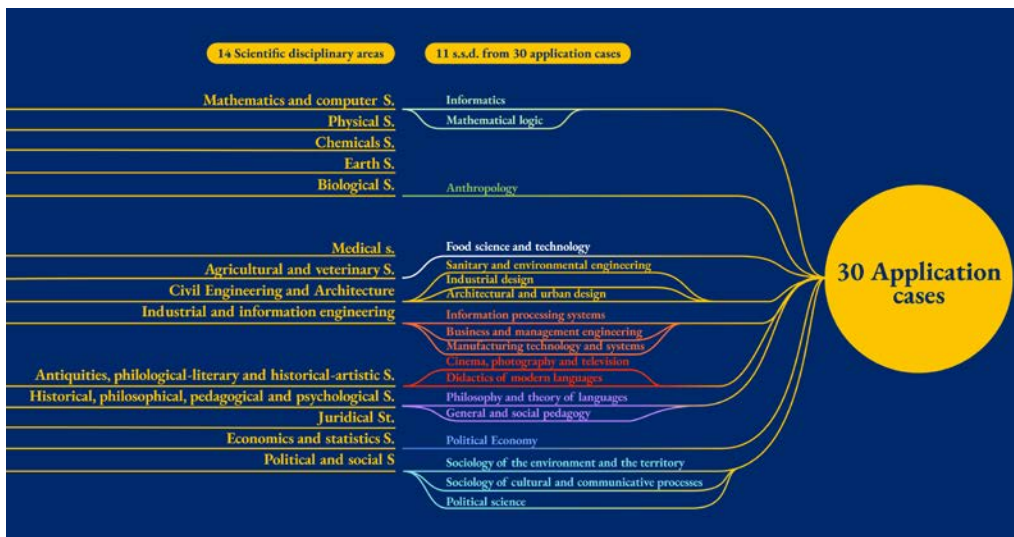


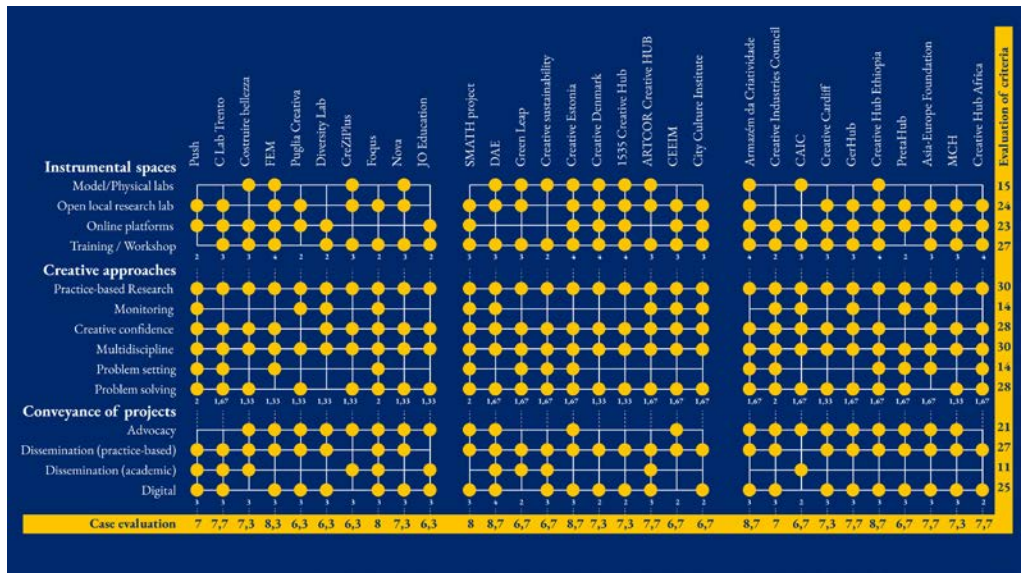
Fig. 4
Visualisation of the scientific disciplinary sectors and their corresponding areas involved in the projects, by the Authors.

Tab. III
List of scientific disciplinary sectors and number of application cases involving them in projects.

Scientific disciplinary sectors	Number of cases involved
Industrial design	30
Information processing systems	20
Sociology of cultural and communicative processes	16
General and social pedagogy	15
Business and management engineering	12
Political science	11
Architectural and urban design	9
Informatics	5
Cinema, photography and television	4
Sociology of the environment and the territory	3
Political science	3
Sanitary and environmental engineering	3
Food science and technology	3
Didactics of modern languages	2
Manufacturing technology and systems	2
Anthropology	2
Mathematical logic	1
Philosophy and theory of languages	1

In parallel, a second phase involved performing a qualitative heuristic evaluation analysis applied to the application cases (Afacan & Erbug, 2009), on the basis of three criteria in particular: Instrumental Spaces, Creative Approaches and Conveyance of Projects. In detail, the Instrumental Spaces — clustered into Model/Physical labs, Open local research labs, Online platforms, Training / Workshops — emerged as the most relevant criteria from the literature on creative spaces (Panozzo, 2021). They are useful for identifying the predominance, tendency, and lack of spaces for developing creativity. The criteria used was a multiple choice with a maximum score of 4 — one point each. The six Creative Approaches — Practice-based Research, Monitoring, Creative confidence, Multidisciplinary, Problem setting, Problem solving — emerged from the literature on applied creativity (Degiacomi Garbero et al., 2024) from a design perspective. They help identify the predominance, tendency and lack of space for developing creativity. In this case, the criteria used was a multiple choice with a maximum score of 2–1/3 point each. Lastly, the Conveyance of Projects — Advocacy, Dissemination (practice-based), Dissemination (academic), Digital — helps to identify the effectiveness of disseminating the projects that were carried out and the objectives that were achieved. The criteria used also included a multiple choice with a maximum score of 4 — one point each. The Instrumental spaces, Creative Approaches and Conveyance of Projects are identified through the protocol analysis of sites, platforms, reports, and interviews with application cases. Moreover, they emerge from the literature, and creative methods are implemented in creative contexts. The data is organised into a comparative grid — with a maximum value of 10 — according to the second analysis performed. This data has been visually arranged to provide a clear understanding of the central tendency of the cases. The result is an evaluation matrix of the individual criteria and the overall individual application cases Fig. 5.

Fig. 5 Evaluation matrix of application cases, by the Authors.



Considering the matrix vertically — therefore case by case — it is important to underline that each of them are valued above the average — an additional element for taking the cases into account — with some exceeding the value of 7 out of 10.

However, in analysing the grid horizontally — by evaluation parameter — some relevant information emerges. As regards the presence of instrumental spaces, the abundance of places for training and activities such as workshops is clear, whereas there is a shortage of laboratories for more physical-manual work. As highlighted in the previous analysis, the creative approaches, applied research, and multidisciplinary stand out. Practices linked to creative confidence and problem-solving are also structured, while there are no cases relative to problem-setting. Finally, regarding project communication, practice-based dissemination through informal channels such as websites or private institutions is well structured, while traditional academic dissemination is less present.

Results

This analysis of the thirty application cases highlights several key elements common to creative places across different scales. The first element is the timeframe when most of them arose. The median date is 2013, but one-third of the cases analysed started between 2012 and 2014. This peculiar situation can be supported by the fact that 2013 was the year The Creative Europe programme was established (Zygierewicz, 2018). This project was designed for the period between 1 January 2014, and 31 December 2020, with a fund of €1.462.724.000, allowing the European countries, as well as other international collaborations, to generate an autopoietic process of creative projects interconnected with creative activities, cities and territories (Falletti & Borrione, 2020). The Creative Europe programme was then renewed for seven more years, which may be seen in the constant growth of creative cases present in this analysis.

A second noteworthy element is the projects' multidisciplinary. As the analysis shows, with the exception of very specific cases, most reach at least 50% of creative multidisciplinary projects. However, some specific disciplines are lacking. While certain disciplines are very present, in the hard applied sciences or social sciences, there is a significant gap in the hard pure sciences. This gap is aligned with the gap in the literature that sees the same discipline missing in creative activities, reinforcing stereotypes of what can and cannot be creative (Dumas & Dunbar, 2016). In this sense, Design as a mediating discipline has the opportunity — as is already the case with the current state — to include these missing disciplines in the dynamics, the methodologies and the outcomes (Bremner & Rodgers, 2013).

The third and last aspect regards the results of the framework matrix Fig. 6.

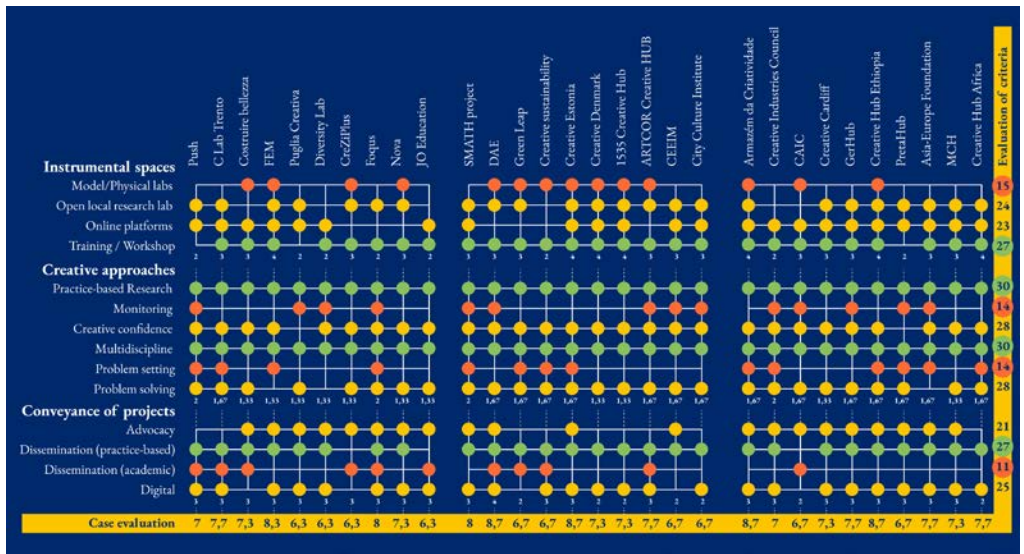


Fig. 6 Evaluation matrix of application cases, highlighting positive and negative traits, by the Authors.

These last results, supported by the previous analyses can lead towards a hypothesis of what a creative context can be. Starting from the places, this analysis confirms the emergence of physical, educational spaces for sprint activities among heterogeneous groups of people able to generate innovation (Vannini & Piccolo, 2021; Visoná et al., 2022). For this reason, the most common approach is practice-based research. Therefore, a design that starts from contextual multidisciplinary research can move beyond a concept and become feasible (Erlhoff & Marshall, 2008). In these contexts, dissemination oriented towards companies and private and public institutions is the most effective method (Freihoefer & Zborowsky, 2016). Meanwhile, commonly missing are the physical/practical spaces, replaced by virtual laboratories, where concreteness is supported by digital and IoT (Silva et al., 2018). The less common approaches, confirming the literature, are the problem-setting approaches — mainly present in social sciences, but very rarely used — (Schön, 1979) and the monitoring activities linked to the use of indices, which are difficult to compare and apply to the world of creativity (Hoelscher & Schubert, 2015). This affects communication in the academic field. Due to its meta-disciplinary nature (Matsuda, 2021), creativity struggles to establish a defined role in academic fields and, therefore, a way to be conveyed (Bentley, 1966).

In summary, the identification of a creative context, according to this application case analysis, is represented by physical educational and multidisciplinary spaces that can achieve results across social needs and technical applications. Moreover, this modern context allows for the interaction of public entities at the European level and the definition of networks with local partners. Lastly, its communication is effective towards the so-called creative industries (Cooke & De Propriis, 2011), always supporting practice-based projects to be developed.

Conclusions and Limits

The article offers valuable insights into the structure and function of creative contexts, particularly emphasising their multidisciplinary and social impact. The analysis highlights that creativity thrives in physical, educational spaces where diverse groups can collaborate on practice-based projects. Moreover, creative contexts extend beyond mere artistic expression; they engage with broader societal needs and technical applications, often supported by public and private institutions. The article suggests that a successful creative context is characterised by its ability to foster innovation through collaboration, practice-based research, and active dissemination within creative industries.

One of the key takeaways is that creativity is not just an abstract concept but a structured process requiring the right environment to thrive. It involves physical spaces and sociocultural interactions, making it a driver of innovation in multiple disciplines. Yet, this dissertation also highlights a lack of creative engagement in pure scientific fields, indicating an area ripe for future research and integration.

In conclusion, while the article provides a comprehensive exploration of creative contexts, future research should aim to broaden its scope and deepen its analysis of creativity's intersection with pure sciences and long-term societal impacts.

Sergio Degiacomi Garbero

PhD student, with a focus on creative design applied in innovative and sustainable methodology in transdisciplinary fields for local territories. They pursued a research scholarship in communication for one year at the Politecnico di Torino and in the City Hall of Torino.

Chiara Lorenza Remondino

PhD student, with a focus on creative design applied in innovative and sustainable methodology in transdisciplinary fields for local territories. They pursued a research scholarship in communication for one year at the Politecnico di Torino and in the City Hall of Torino.

Paolo Tamborrini

Full professor. He has coordinated numerous research studies in the field of design and communication for sustainability. Since 2022, he is the president of the Inter-University Degree Course in Sustainable Design for the Food System at the Università di Parma and the Politecnico di Torino. In 2015 he co-founded the Innovation Design Lab.

References

- Afflerbach, P. (2001). Verbal reports and protocol analysis. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, R. Barr (Eds.), *Methods of literacy research* (pp. 97-114). Routledge.
- Afacan, Y., & Erbug, C. (2009). An interdisciplinary heuristic evaluation method for universal building design. *Applied Ergonomics*, 40(4), 731-744.
- Allen, J. S. (2006). Creative Cities: Conceptual Issues and Policy Questions. *Journal of Urban Affairs*, 28(1), 1-17. <https://doi.org/10.1111/j.0735-2166.2006.00256.x>
- Bentley, J. C. (1966). Creativity and academic achievement. *The Journal of Educational Research*, 59(6), 269-272.
- Bremner, C., & Rodgers, P. (2013). Design Without Discipline. *Design Issues*, 29(3), 4-13. <http://www.jstor.org/stable/242267085>
- Černe, M., Bunjak, A., Wong, S. I., & Moh'd, S. S. (2022). I'm creative and deserving! From self-rated creativity to creative recognition. *Creativity and Innovation Management*, 31(4), 664-679. <https://doi.org/10.1111/caim.12518>
- Cho, B. Y. (2020). Examining the Process of Reading in Media Text Environments: A Methodological Perspective. In E. Birr Moje, P. P. Afflerbach, P. Enciso, N. K. Lesaux (Eds.), *Handbook of Reading Research, Volume V*, (pp. 464-486). Routledge.
- Cooke, P., & De Propriis, L. (2011). A policy agenda for EU smart growth: the role of creative and cultural industries. *Policy studies*, 32(4), 365-375.
- Degiacomi Garbero, S., Remondino, C. L., & Tamborrini, P. (2024). The Involvement of Creativity in Innovative and Sustainable Processes. In C. Gambardella (Ed.), *For Nature/With Nature: New Sustainable Design Scenarios* (pp. 45-55). Cham: Springer Nature.
- Dorst, K., & Cross, N. (2001). Creativity in the Design process: co-evolution of problem-solution. *Design Studies*, 22 (5), 425-437.
- Dovey, J., Pratt, A. C., Moreton, S., Virani, T. E., Merkel, J., & Lansdowne, J. (2016). *The creative hubs report: 2016*. British Council.

- Dubois, D., & Prade, M. (1979). *Fuzzy Sets and Systems: Theory and Applications*. New York: Academic Press.
- Dumas, D., & Dunbar, K. N. (2016). The creative stereotype effect. *PLoS One*, 11(2), e0142567.
- Erlhoff, M., & Marshall, T. (2008). *Design dictionary: perspectives on design terminology*. Birkhauser Verlag AG. <https://doi.org/10.1007/978-3-7643-8140-0>
- European Commission. (2017). *How to Set Up a Creative Hub*. European Creative Hubs Network project. https://creative-hubs.net/uploads/Creative-Hubs-Madrid-Toolkit_Final.pdf
- Evans, G. (2009). Creative cities, creative spaces and urban policy. *Urban studies*, 46(5-6), 1003-1040.
- Falletti, V., Borrione, P. (2020). *L'impatto di Europa Creativa in Italia 2014-2020*. Desk Italia Europa Creativa. <https://www.fondazione-santagata.it/in-evidenza/liimpatto-di-europa-creativa-in-italia-2014-2020/>
- Florida, R. (2002). *The rise of the creative class: And how it's transforming work, leisure, community and everyday life*. Basic Books.
- Frayling, C. (1993). Research in art and design. *Royal College of Art research papers*, 1, 1-5.
- Freddi, A., Salmon, M. (2019). Introduction to the Taguchi Method. In: A. Freddi, M. Salmon (Eds.), *Design Principles and Methodologies* (pp. 159–180). Springer Tracts in Mechanical Engineering. Springer, Cham. https://doi.org/10.1007/978-3-319-95342-7_7
- Freihoefer, K., & Zborowsky, T. (2016). Making the Case for Practice-Based Research and the Imperative Role of Design Practitioners. *HERD: Health Environments Research & Design Journal*, 10(3), 66–82. <https://doi.org/10.1177/1937586716674470>
- Friedman, K. (2008). Research into, by and for design. *Journal of Visual Art Practice*, 7(2), 153–160. https://doi.org/10.1386/jvap.7.2.153_1
- Gaiardo, A., Remondino, C., Stabellini, B., & Tamborini, P. (2022). *Il design è innovazione sistemica. Metodi e strumenti per gestire in modo sostenibile la complessità contemporanea: il caso Torino*. LetteraVentidue.
- Goleman, D., Ray, M., & Kaufman, P., (2001). *Lo Spirito Creativo*. Rizzoli.
- Goodman, L. A. (1961). Snowball sampling. *The annals of mathematical statistics*, 148-170.
- Graesser, A., & Bower, G. (Eds.), (1990). *Inferences and text comprehension*. Academic Press.
- Günther, J., & Meissner, D. (2017). Clusters as Innovative Melting Pots? —the Meaning of Cluster Management for Knowledge Diffusion in Clusters. *Journal of the Knowledge Economy*, 8(2), 499–512. <https://doi.org/10.1007/s13132-017-0467-z>
- Gwiaździński, E., Kaczorowska-Spychalska, D., & Pinto, L. M. (2020). Is it a smart city a creative place? *Creativity Studies*, 13(2), 460-476.
- Hoelscher, M. & Schubert, J. (2015) Potential and Problems of Existing Creativity and Innovation Indices. *Creativity Research Journal*, 27(1), 1-15. <https://doi.org/10.1080/10400419.2015.992656>
- Iyanda, A. I., Majid, A. H., & Joarder, M. H. R. (2017). Filling up the HRM 'Black Box'; do creativity and management philosophy matter?. *Management Science Letters*, 7, 163-176. <https://doi.org/10.5267/j.msl.2017.1.003>
- Jeffres, L. W., Bracken, C. C., Jian, G., & Casey, M. F. (2009). The impact of third places on community quality of life. *Applied Research in Quality of Life*, 4, 333-345. <https://doi.org/10.1007/s11482-009-9084-8>
- Jiang, H., & Yen, C. (2009). Protocol analysis in design research: a review. *Journal Paper*, 78(24), 16.
- Lambiri, D., Biagi, B., & Royuela, V. (2007). Quality of life in the economic and urban economic literature. *Social Indicators Research*, 84, 1–25.
- Landry, C. (2012). *The creative city: A toolkit for urban innovators*. Earthscan.
- Leuffen, D. (2007). Case Selection and Selection Bias in Small-n Research. In: T. Gschwend, F. Schimmlenfennig (Eds.), *Research Design in Political Science*. Palgrave Macmillan. https://doi.org/10.1057/9780230598881_8
- Lindberg, T., Noweski, C., & Meinel, C. (2010). Evolving discourses on design thinking: how design cognition inspires meta-disciplinary creative collaboration. *Technoetic Arts*, 8(1), 31-37.
- Logan, A. T., Moore, A. L., & Bagdy Lauren, M. (2021). K12 Practitioners' Perceptions of Learning from Failure, Creativity, and Systems Thinking: a Collective Case Study. *TechTrends*, 65(4), 636-645. <https://doi.org/10.1007/s11528-021-00596-7>
- Matsuda, P. K. (2021). On the disciplinary identity of second language writing. *Journal of Second Language Writing*, 52, 100796. <https://doi.org/10.1016/j.jslw.2021.100796>
- Oldenburg, R. (1991). *The great good place*. Paragon House.
- Panozzo, F. (2021). Volume #2: *Cultura e creatività in azienda. L'esperienza del progetto SMATH*. FranzLAB.
- Rosado-García, M. J., Kubus, R., Argüelles-Bustillo, R., & García-García, M. J. (2021). A new European Bauhaus for a culture of transversality and sustainability. *Sustainability*, 13(21), 11844.
- Schön, D. A. (1979). Generative metaphor: A perspective on problem-setting in social policy. *Metaphor and thought*, 2, 137-163.
- Silva, B. N., Khan, M., & Han, K. (2018). Towards sustainable smart cities: A review of trends, architectures, components, and open challenges in smart cities. *Sustainable cities and society*, 38, 697-713.
- Tashakkori, A., & Creswell, J. W. (2007). The new era of mixed methods. *Journal of mixed methods research*, 1(1), 3-7.
- Vannini, G., & Piccolo, A. (2021). *Il modello creative confidence: Dall'impresa alla social enterprise*. Libreriauniversitaria.it.
- Visoná, P., Rodrigues da Cunha, M., & Kielsing, C. (2022). On Designing Innovations: Relationships Between Creativity, Ecosystems and Cities. *Diid — Disegno Industriale Industrial Design*.12(78), 146-157. <https://doi.org/10.30682/diid78220>
- World Design Organization. (2015, October 18). *Definition of industrial design*. <https://wdo.org/>
- Zygierewicz, A. (2018). *Creative Europe Programme (2014 to 2020)*. Brussels: European Parliament. <https://data.europa.eu/doi/10.2861/31352>

Published in September 2024 by Bologna University Press

The Open Debate section explores research on the relationship between design practices and the concept of *civis* encompassing both physical spaces and digital territories, networks, systems, and urban forms. Design plays a key role as a mediator across disciplines, leveraging co-design to engage citizens and stakeholders in creating and testing services and products. The importance of a systemic approach is emphasized, highlighting design's growing relevance in addressing complex societal challenges through deep, context-specific solutions: from Service Design for the Public Sector to the development of responsible planner systems in China, from scenario building that encourages community engagement to new sensory training for design/architecture and local-based NetZero city strategies.

The Section highlights the importance in addressing the increasing complexity of interactions with products and systems, facing political, economic, and legal constraints.

Flaviano Celaschi

