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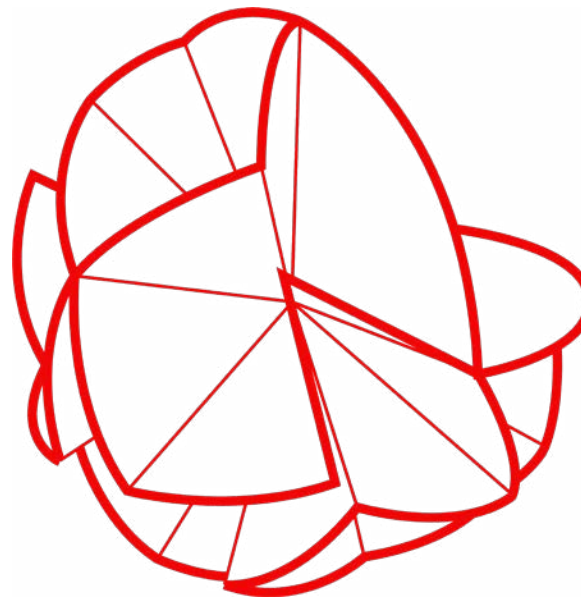
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Proceedings of the 8th International Forum of Design as a Process

Alma Mater Studiorum — Università di Bologna



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Contents

Track 4

Design Values Out of the Mainstream: New Geographies of Influence

578
Design Values Out of the Mainstream: New Geographies of Influence
Qassim Saad, Andreas Sicklinger, Lorela Mehmeti

588
An Analytical study to develop the traditional craft in the field of creative industries in Egypt
Hoda Aman

600
Enhancing social well-being through social innovation approach and design expertise: a case study for social innovation in a local district in Turkey
Yagmur Gizem Avci, Ece Cinar, Cigdem Kaya

610
Cultural Factories: Conversion of Industrial Areas into Cultural Hubs
Eva Vanessa Bruno, Beatrice Lerma, Doriana Dal Palù, Claudia De Giorgi

620
Bahrain Knowledge Bay. Using Design Thinking to Establish an Infrastructure Towards Knowledge Economy
Halim Choueiry

630
Culture and creativity as assets for inclusive growth in small and remote places: a design-led process
Annalinda De Rosa, Davide Fassi

640
Culture-based Innovation: A Localized Approach for Designing
Alaa El Anssary, Ahmed Wahby

650
Burning approaches to tensing the present: a new political dimension of design
Fabiana Marotta

658
Design Resistance. Material Solutions for local remoteness
Martina Taranto, Barbara Pollini, Valentina Rognoli

668
How Should Technology Follower Companies of Developing Countries Innovate Through Design Capability?
Bilgen Tuncer Manzakoğlu

680
Subjectivation and cities: relationships between local independent fashion and Possible Future Scenarios
Paula Visoná, Mágda Rodrigues da Cunha, César Kieling

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Track 4

Design Values Out of the Mainstream: New Geographies of Influence

In geographical areas in which there is need today of establishing new economies, production of goods often relates either on traditional craft or imported industrialized plants. They do not see in the design field the chance to innovate objects as narrative tools with cultural reference.

With a wider view towards possible future developments of economies and cultures, the "Discourse of Transition" by Arturo Escobar reaches an unprecedent interest for design: there is a clear difference in forecasting planetary changes related to the Global North, where the debate goes towards degrowth and postgrowth, postcapitalist, posthuman and many other post-industrial ideas of liberation of the "machine", while the Global South looks towards postdevelopment and biocentric, after a period of self-definition of its position in the world. Acknowledging these areas as new geographies of influence for the world of tomorrow, as driver of a "Civilizing Globalization", the track welcomes contributions that explore design praxis and research in decentralised areas (i.e. in the Global South) beyond the Mainstream. It wants to showcase projects that establish an independent view on local industry and endemic design strategies, self-construction and craft, which eventually generate new aesthetics and recognition of human being's skills. Moreover, the narration of experiences related to Advanced Design practices and processes, example of unconventional collaboration and networking, cross-fertilization between design, arts and technologies will complete the panorama of studies and projects of this track.

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Endemic design
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578
Design Values Out of the Mainstream: New Geographies of Influence
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Cultural Factories: Conversion of Industrial Areas into Cultural Hubs

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Abstract
The need to restore the former industrial factories so as not to leave the buildings and the neighborhood in a state of neglect has attracted scholarly and popular attention. The following contribution aims to highlight how designers can contribute to the repurposing of buildings by paying attention to the end user and planning new experiences and activities by reading case studies of industrial conversion of production sites into cultural hubs. The company's history, intrinsically linked to the territory, and its products, are the protagonists of the reconversion so as not to forget the past local productive culture demonstrating how it is possible to generate new and different economies from before. The case studies tell the story of the industrial conversion of companies and mines in urban and decentralized areas to get a representative look at the Italian and European territories.

Keywords
Industrial conversion
Cultural heritage
Production sites
Territory and culture
Cultural services

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Introduction and research context – former industrial factories

In the last decades, there has been a surge of interest in the effects of disused factories or industrial centers, beginning with industrial expansion after World War II that created massive areas of industrial archaeology over the years. Nowadays, these places, abandoned and a source of urban decay, negatively impact people who live nearby; the buildings undergo a slow and progressive deterioration that consequently makes the entire neighborhood unattractive, unsafe, and unpopulated. The existing body of research suggests that they can instead be, and have already been, enhanced through several initiatives. Indeed, those places are a significant part of the urban heritage (Sposito, 2012) and a resource to exploit for their embedded values and sunk costs. It has previously been observed that the topic "is not only scientifically but also an economic and heritage issue for regions which are now severely affected by the industrial restructuring process" (Merciu et al., 2014). The reconversion process (Schwartz, 1992) is a phenomenon that affects various fields, from architecture, the most well-known association in the literature, to design, in all its facets, as the contribution will later highlight. The reconversion should consider several aspects of the former production site, such as the architectural forms, the building materials, and the company's history and know-how that shaped the production context to implement context-consistent change (Lerma, et al., 2018). Abandoned industrial centers, for which redevelopment, restructuring and functional adaptation are urgently needed, can offer the development of engaging services focused on the territory's characteristics. The causes of the abandonment of these areas are multiple and non-simplifying. In Italy, where the case study research started, the offshoring effect has caused the reallocation of labor abroad, where production and labor costs over the years were lowered. As a result, production was gradually relocated to foreign countries. The abandonment of critical industrial areas, often also located in urban centers, is one of the consequences. Disused industrial areas affected 3% of the territory in urban and suburban areas, and 70% of abandoned industries are located in decentralized areas (ISTAT and Associazione Nazionale dei Comuni Italiani, 2012). In this research, the term "industrial areas" includes not only factories but also extraction sites; as far as following the exhaustion of deposits, quarries and extraction sites are often abandoned. There are 14,000 abandoned quarries in Italy, involving one-fifth of Italian municipalities (Legambiente, 2021).

Cultural services are the fil rouge linking the whole research through different geographical locations, material cultures and manufacturing production. This paper is the first analysis that aims to spotlight how specific interventions in places that have apparently exhausted their value, focused on cultural-driven enhancement, not the architectural and urban ones, can create new opportunities for the local population and give new visibility to the area. The discipline of Design will guide the mentioned interventions in many facets, such as those indicated by ADI - Associazione per il Disegno Industriale in Italy: communication design, exhibit design, service design, and social design.

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The paper aims to investigate the following research questions:

- What role can the discipline of Design play in the framework of industrial conversion of disused production sites?
- What elements and opportunities should the designer seize to design an industrial conversion into cultural hubs?

The focus on decentralized areas is essential, where redevelopment is possible and concrete thanks to cultural-led interventions involving the local population, attracting outsiders, and engaging also "local, regional and national authorities and relevant stakeholders of the regional and national cultural system" (Dal Palù et al., 2018).

The following paper will cite four case studies of culture-led industrial conversions, witnesses of an efficient narration of historical production culture, in Italy and Germany, countries with significant productive economic development in urban and decentralized areas to find strengths to exploit.

There is literature (Kirshenblatt-Gimblett, 2004; Trocchianesi, 2014; Bozzola & De Giorgi, 2017; Parente et. al., 2017) on a broad debate dedicated to the relations between design and territory and the role of designers in creating new dynamics.

Methodology

The research described here is a portion of the author's doctoral path regarding tools and methodology to accompany companies to a design-driven industrial conversion. Section 4 proposes parallels of industrial conversion in developed and decentralized areas through selected case studies (Yin, 2017). The research involved the shape of a database of approximately 100 case studies of industrial conversion, it is divided into sectors: 60 cases of industrial conversion of manufacturing companies, 9 cases of wartime industrial conversion, 20 case studies of companies that temporarily reconverted production to produce essential goods during the COVID-19 pandemic. Finally, 10 case studies exemplify the opportunities that an abandoned production site, significant for the cultural heritage, can offer to transform itself into a cultural hub. The database contains useful information to understand the strategic levers that enabled the reconversion: production sector, manufacturing processes, assets, causes of the crisis, strategy of valorization. The research aims to analyze state of the art to understand the strategic choices made and to identify guidelines indicating new directions of diversification based on the available assets to transform abandoned factories into cultural hubs.

To address this scope, the research adopts the exploring design methodology path (Germak & De Giorgi, 2008), which can define new products and innovative services for the future, integrated with quantitative, qualitative, and mixed methods selected and used for the doctoral research. This methodological approach, framed from the Politecnico di Torino, matches requirements and performances, and is organized in three macro levels:

- Concept design, that answers to the question: “How to do?” (starting from fixed typologies and functions)
- Scenario design, that answers to the question: “What to do?” (starting from fixed materials and technologies)
- Exploring design, that answers to the question: “Where to do?” (starting from a spread ambit to investigate).

Therefore, adopting the exploring design path at the third level, it is possible to scope new meanings and functions for abandoned factories, starting from the analysis of the scenario that is state of the art: the territory, the local productive culture, buildings, infrastructures...

This collection of information and data is the starting point to explore new possibilities for redevelopment of the site, respecting and enhancing what was there before.

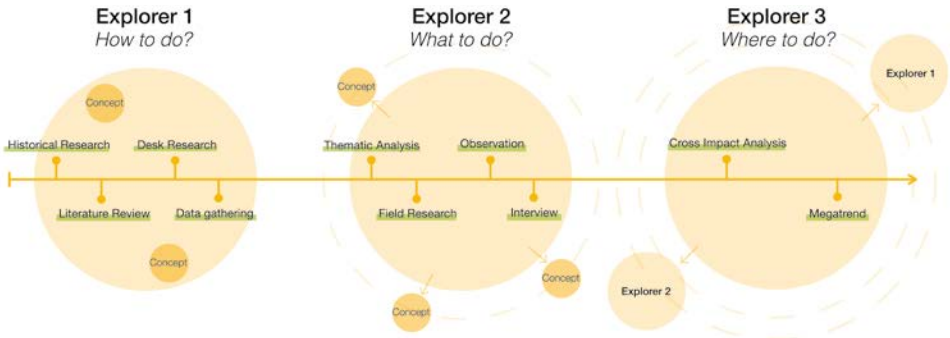


Fig. 1
Exploring Design methodology. © Germak & De Giorgi, 2008. Authors' graphic adaptation of the original (in yellow the Exploring Design methodology, in green authors' doctoral selected methods).

Industrial conversion and adaptive reuse for Creative Industries

Industrial conversion can generally be understood as replacing heavy industry with other industries or businesses or repurposing spaces for commitments other than the previous production. The first acts in a preventive form, and the second after the crisis has already occurred. Indeed, the first case is expected for bankrupt or failing factories or atypical and extraordinary adverse events (such as wars and the recent COVID-19 pandemic). The other direction has a variety of pathways to choose from, for example, to convert these places into cultural hubs: museums, tourist attractions, and public spaces. In Architecture, this is defined as adaptive reuse, and the literature on this subject is extensive, mainly related to cultural heritage (Plevoets & Van Cleempoel, 2011; Foster & Saleh, 2021; Li, et al., 2021). This second line of action is an offshoot of doctoral research and the focus of this paper, close to the themes of Creative Industries (BOP Consulting & Korean Research Institute on Human Settlement, 2020) or the so-called Creative Economy, which, according to Howkins (2007) “includes all the sectors whose goods and services are based on intellectual property” (p. 86). The most recent references appear as Orange Economy (Buitrago Restrepo & Duque Márquez, 2013), as orange has often been associated with culture, creativity and identity. So, in these conversions to cultural hubs, which include goods and services traditionally associated with public cultural policies and creative services, the focus shifts from producing goods to providing services for the local community, capable of attracting tourists.

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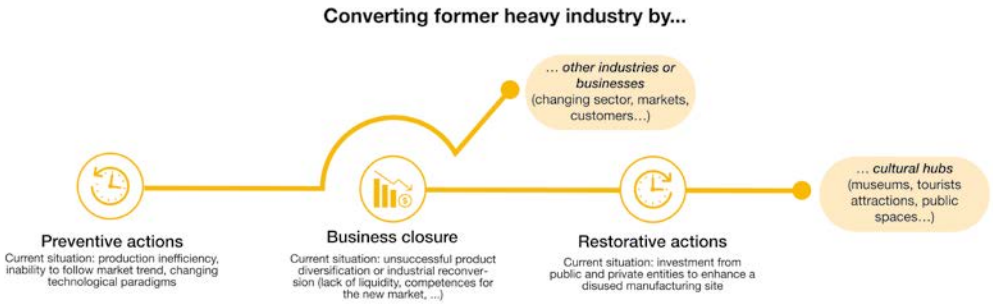


Fig. 2
Preventive or restorative action of industrial conversion. © Graphic by authors.

Case studies

The following case studies represent a small but significant selection of good practices for an efficient industrial conversion of abandoned industries and mines into cultural hubs related to industrial design. They are examples of beneficial change for the territory because many abandoned sites seriously negatively impact the environment and people living nearby. These four case studies are particularly significant for the call of the related conference for their economic, social, cultural, and environmental impacts.

The Zeche Zollverein Coal Mine Industrial Complex

The first case study regards the Ruhr metropolitan region in Germany. It developed with the industrial revolution and became one of Europe's most densely populated regions and a stronghold of heavy industry, coal, and steel mining. After the crisis in the 1960s, reconversion was neither quick nor easy as it had the highest percentage of disused industrial and mining land in East Germany. The Zeche Zollverein Coal Mine Industrial Complex in Essen was one of the world's largest mines in size and production, which was definitively abandoned in 1986. The area has invested in research, education, alternative economies, and culture with public and private investments. Not only that: the industrial heritage has been saved and reconverted, becoming a proper open-air museum. The former boiler house was converted in 1995 by the architect Norman Foster for this new purpose. Today, this vast complex, a declared UNESCO World Heritage Site in 2001, can be visited to retrace the cycles of coal mining and learn about the work in the mines. However, the Zollverein is an avant-garde cultural center: it houses the Red Dot Museum, the world's largest design museum that, with more than 4,000 square meters of presentation space, hosts the world's largest exhibition of contemporary design.



Fig. 3
The “Slim in Motion” luminaire by Licht Cube in the old structure. © Red Dot Design Museum

The Lingotto plant

The Lingotto, in Turin, Italy, is an area of buildings that was once one of the leading production plants of the FIAT automobile factory, later converted to a sizeable multi-purpose center. It is now home to numerous stores, restaurants, a cinema and an exhibition center, the venue for significant cultural events related to the publishing world each year. Of particular interest is the recent opening of Casa 500 and Pista 500. The first one is a museum designed by LAB71 Architetti studio, dedicated to the famous and iconic FIAT 500, a world-recognized symbol of Italian automotive design, a pop icon, and a symbol of empowerment. Pista 500 is Europe’s most extensive roof garden, with 40,000 native plants, and a track for electric cars, bicycles, and scooters. The same track where, years ago, cars built in the Lingotto factory below used to be tested. Pista 500 was realized by the Camerana&Partners studio, with the collaboration of the Turin architect Cristiana Ruspa, who specializes in landscape, gardens, and botanical gardens. When it was a factory, the entire assembly line developed across the height of the building until the car testing on the roof. This concept provides the city with a new space to relax and reconnect with nature in an increasingly urban way.



Fig. 4
Pista 500 at Lingotto. © Marco Schiavone_courtesy Benedetto Camerana Studio

diid DSI No.1 — 2023
Doi: 10.30682/diiddsi23t4d

The Val Germanasca talc mine

As affirmed before, conversions do not only concern industrial plants but also places such as mines, places that inevitably created an impact on the area and that can, once the quarry is exhausted, be enhanced and tell the story of their productive culture. In the Pinerolo valleys, in the Piedmont region, in Italy, talc extraction began at the end of the 18th century. Talc mining represented for many years the only possibility of work for the inhabitants of Valle Germanasca. Today, the will is to remember that period and the sacrifices made for the area's development. Thus, the idea to tell the story of the mine through a guided tour that show the "gold of these valleys" was born in 1995. In addition, it is possible to access the Ecomuseo delle miniere e della Val Germanasca (Ecomuseum of Mines and Germanasca Valley). It is a modern cultural proposal organized to describe the miner's life to the public. The Eco Museum thus expresses the desire of the local people to bear witness to their identity by promoting knowledge of the territory's past through designed exhibit projects. Its dual muse is the silver mining museum in Argentière la Bessée, a decentralized mountain area of Savoie in France; that is an ancient silver mine whose modern mining began in 1785 until 1908 when the deposit was considered exhausted; since 1992, the mine has been an eco-museum.



Fig. 5
The Ecomuseo delle miniere e della Val Germanasca. © Photo by authors.

The second case study concerns The European Network of Coal Mining Museums, which includes seven museums located in Europe (Centre Historique Minier du Nord Pas-de-Calais in Lewarde, France; Bois du Cazier in Marcinelle, Belgium; National Coal Mining Museum for England in Wakefield, England; Deutsches Bergbau Museum of Bochum, Germany; Muzeum Gornictwa Weglowego Kopalnja Guido of Zabrze, Poland; Museo de la Minería y de la Industria de Asturias, Mina San Vicente, Spain; and finally Centro Italiano della Cultura del Carbone, Carbonia, Italy). The network is synergistic in four different activities: through the exchange in the field of scientific research to promote and enhance the industrial heritage through studies in diverse research fields; exchange of professional practices for museum management and to improve visitor services; exchange of cultural productions (such as exhibitions, publications) to increase the number of exhibition topics by making them always up-to-date and exciting. Finally, a collaboration from the perspective of communication and marketing is a synthesis of the previous three activities. These redevelopments of mines in decentralized areas, once the focus of economic activity, are essential because they are considered museums of places and territory, expressions of a past.



Fig. 6
Exterior view Deutsches Bergbau-Museum Bochum. © Karlheinz Jardner

Results and discussion

There may be a perceived misconception of former industrial sites being not economically attractive or competitive for a region, and there is not a theoretical framework to understand their attractive features (Tu, 2020). Designers can find several opportunities to exploit post-industrial areas through selected design methods. As the case studies show, through the enhancement of historical and cultural values, the exploitation of sunk costs, the possibility of making private places accessible, the evidence of the past and the material culture become protagonists of the conversion project. Regenerating a former industrial area means revitalizing an entire area, enriching the city in which it is located and giving new value

diid DSI No.1 — 2023
Doi: 10.30682/diiddsi23t4d

to the territory offering new economies that are more widespread than before (with a more efficient accommodation and transportation system and increased trade). Abandoned industrial areas can be transformed according to local, territorial, national strategies, through, for example, by EU funding programmes (Multiannual Financial Framework, NextGenerationEU ...). The solutions can be different and can span different scales of the project, from product to service to communication; for example, strategies that allow a high degree of flexibility with a temporary use or attractive alternatives by creating museums and cultural spaces. While respect for the place's history and inhabitants is essential, exporting and making this history known to locals and to the outside is equally vital through tourism, as in several projects that connect cultural heritage with places and social contexts. Indeed, tourism could be one of the primary income sources for those reconverted cultural hubs as an important player in international economic development.

The figures of designers play a crucial role in this context by making essential contributions: designing inclusive services, planning tourist and cultural initiatives focusing on the past and history of the territory and the company with its resources in a resilience way (Fassi & Sedini, 2017). For the next steps of the research, the will is to classify these case studies to find insights or intuitions from individual case studies, for example, how the case studies organized site spaces, uses, related services; bring the insights together to find guidelines for companies in crisis that can convert unused spaces into cultural hubs.

Conclusion

The territories and the places described are examples that present strategies of growth and regeneration to develop creative activities focused on the environment and the productive, social, and cultural context.

An important theme that emerged is that the conversion implies significant changes both on-site and in the surrounding territory. Therefore, the dense network generated among the stakeholders can provide territorial development and create a favorable local economic environment. This contribution discloses the tangible and intangible heritage of immense value through the conversion of disuse sites and design-oriented initiatives that could be inserted into a more comprehensive strategy of valorization of the cultural heritage. These reconversions offer the area new economies that are more widespread than before (the accommodation system, transport, trade). The finding of this study suggests that the discipline of Design can accompany industrial conversion processes in decentralized areas as a tool for innovation, capable of exploiting those places that once produced goods and now produce inclusive services with high added value. The application of design in this type of conversion, halfway between a service and a policy, might seem a leap. Instead, many typical designer's skills are exploited: "making seemingly intangible things tangible to the teams working on them. A service or system, for instance, is made up of a series of "touchpoints" [...]. A map of these can be sketched, just as an object can" (Design Council, 2013, p. 7). The designer's role has changed in the last decade; new methodologies and tools applicable to service development and policymaking are being transformed (Design Council 2013; 2018).

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The importance and originality of this study are that it explores industrial conversions through the lenses of culture dissemination in decentralized areas. The case studies mentioned exemplify opportunities for rebirth by exploiting available resources. These conversions are part of the Orange Economy as an activity that has enabled ideas to be transformed into cultural goods and services, thus forming the economic sector of the creative industries (Buitrago Restrepo & Duque Márquez, 2013). The topic appears to be of increasing interest to the European community and beyond. For instance, "European routes of Industrial heritage" is an itinerary containing 1,000 industrial sites in 43 European countries that creates a massive network of different realities to promote the industrial heritage.

The discussion on this topic is open to research institutes, researchers in Design, other disciplines and experts dealing with territorial development and enhancing of productive capital with whom to dialogue in research development.

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DIGITAL SPECIAL ISSUE 1

The 8th International Forum of Design as a Process, themed "Disrupting Geographies in the Design World" was held in Bologna from 20 to 22 June 2022. The event was organised by the Advanced Design Unit of the Alma Mater Studiorum – Università di Bologna, Department of Architecture, in collaboration with two partner universities: Tecnológico de Monterrey (TEC) and Pontificia Universidad Católica de Chile.

The Forum engaged speakers from the Global Design community, expanding the original vocation of the Latin Network for the Development of Design as a Process to include researchers and designers of the Mediterranean Area, Middle East, IOR (Indian Ocean Region), and Global South regions. The goal was to share new perspectives on imagining design futures in a responsible and just perspective, at the forefront of change, while building strategic partnerships and creating accessible knowledge.

Structured around three pillars — seminars, workshops, and exhibitions — the Forum hosted meetings, reflection opportunities, networking activities. It involved designers, scholars, young researchers, design entrepreneurs, in an experimental format.

Speakers' contributions not only inspired the practices of the designers' community, but also resonated with students and the broad audiences. The presentations explored intersections of materiality and culture, post-coloniality, decoloniality, gender studies, and other areas of human thought and action which seek to analyse, question and challenge the disruptive geographies in the world, today.

The papers submitted to the five tracks proposed are published in the Digital Special Issue 1 of *diid. disegno industriale – industrial design*, celebrating during those days its 20th anniversary and serving as the fourth partner of the event.

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