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Internationale Bauausstellungen as an expression of the transformation of environmental, social, and economic paradigms in architecture and urban planning

Abstract

German international construction exhibitions – Internationale Bauausstellungen (IBA) – are an architectural and urban-planning support tool that has been used since the early 20th century. The subject of each edition and the scope of their activities corresponded to the then-current problems of each site by executing accompanying projects and initiatives.

This article presents a chronological analysis of activities undertaken as part of each exhibition, concerning the natural environment, society, and the economy. The objective of the study was to observe the evolution of sustainability paradigms in architecture and urban design.

The results show a clear development of the IBAs – from events that largely focused on architecture and structural solutions to complex instruments of spatial transformation. The analysis of successive events found a growing significance attributed to environmental, social, and economic matters and a departure from isolated design actions towards systemic and interdisciplinary interventions. There was also an observable shift in the scale of the activities – from those focused on a single city, to regional and cross-border projects. The approach to existing urban fabric also changed, following the notion of circularity; a greater emphasis was placed on the adaptive reuse of pre-existing buildings and developments. The significance of public participation also increased, as it gradually became a key tool that allowed for grassroots, local-level transformation.

Key words: Internationale Bauausstellung, sustainable development, natural environment

Introduction

Since the early 20th century, German international building exhibitions (Internationale Bauausstellungen – IBA) (Internationale Bauausstellungen 2025) have been a tool for supporting architectural and urban development and planning at the city and regional scales. Over time, the exhibitions also began to be held outside Germany, and their character evolved from presenting purely architectural solutions to much more complex events, encompassing activities for local communities, the economy, culture, and the environment. A chronological analysis of the solutions adopted within each exhibition can allow for tracing the

dynamics of these paradigm shifts. To date, the exhibitions have predominantly been described monographically in the literature through case studies (Wojtyszyn 2004; Kuhn 2010; Waal, Wit 2012; Kuc 2014). A given phenomenon was analyzed within a single exhibition, e.g., the implementation of sustainable development solutions on a local scale (Pinch, Adams 2013). Projects carried out as part of IBA also served as the basis for assessing the process from idea to implementation, as well as the factors influencing it (Burggräf 2013). Architectural and urban issues were investigated, which mainly concern the Berlin exhibition from the 1980s (Neto 2020; Salgo 2021; Zedda 2021; Domènech-Rodríguez, López López 2023), which was also compared with its predecessor (Fischer 2014). However, comparative analysis is always conducted for exhibitions of a similar scale and character (Drapella-Hermansdorfer 2004; Fischer 2014), while there is a lack of cross-sectional analyses that would present them as a cumulative process, within which subsequent editions refer to earlier experiences,

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Fig. 1. Multi-unit residential building by Walter Gropius at the Interbau 1957 in Berlin (photo by A. Gierko, 2018)

Il. 1. Budynek wielorodzinny projektu Waltera Gropiusa na terenie Interbau 1957 w Berlinie (fot. A. Gierko, 2018)

modifying them in response to new social, environmental, and economic conditions.

This article fills this gap by proposing a chronological analysis of postwar exhibitions. It presents the context of their creation and the implemented solutions. The little-examined aspect of changing trends in addressing issues related to the natural environment, society, and economy was explored, both in shaping architecture and urban planning and in the landscape. Also, a cross-sectional approach – covering several exhibitions over the years – is an approach not found in any publication so far.

Methods

The building exhibitions discussed were examined through desk research based on the literature on the subject, materials studies, and publications posted on the IBA's official website and on websites dedicated to individual exhibitions. All designs of architectural objects, residential complexes, or housing estates, as well as urban and rural projects, were analyzed. Additionally, independent field research was conducted¹, which enabled verification of some observations and the preparation of photographic documentation. The results were summarized in a table, which

¹ In Hamburg during IBA 2013, in Vienna during IBA 2022, in Berlin in 2018 and 2025, and in Lower Lusatia in 2023.

enables chronological comparative analysis and presentation of the solutions implemented in subsequent editions of the exhibitions.

Results

Interbau Berlin was the first exhibition to take place after World War II; however, its organizational method resembled pre-war exhibitions² (Schulz, Schulz 2007; Wagner-Conzelmann 2007; Bauten der "Interbau 57" 2025). Located in the western part of the city, in the Hansaviertel district, it was a response to the construction of the axis laid out from Alexanderplatz in East Berlin. The new district of West Berlin was intended to be a prestigious urban project demonstrating the superiority of one political system over another. Fifty-three internationally renowned designers were selected through a competition, and the district of tenement housing, destroyed as a result of hostilities, was replaced by model buildings ranging from several to a dozen or so stories in height, placed freely on an area arranged with greenery.

It should be emphasized that before the construction of the new Hansaviertel development, the proportion of built-up areas to open spaces was 1:1.5, while the exhibition achieved a ratio of 1:5.5 (Interbau 1957: Landschaftsarchitektur 2025). The vast green areas were to be a counterpoint to tight block housing. In terms of environmental aspects, the implementation of multi-story buildings was therefore of key importance (Fig. 1). Furthermore, the greenery design became part of the urban design³, and landscape architects⁴ were responsible for shaping the surroundings of the buildings. The area was saturated with tall greenery, much like the adjacent and extensive Tiergarten. Trees of ultimately large sizes and various species were planted, intensively greening not only street sequences but also parking lots or atrial spaces of single-family houses. Water-permeable pedestrian surfaces were widely used. At the beginning of the 21st century, green roofs were introduced on part of the multi- and single-family housing, and rain gardens were introduced into roadside spaces (Fig. 2). Against the background of postwar urban practices, Interbau Berlin constituted an example of an innovative approach. Under conditions of the dominance of the intensive reconstruction model, which marginalized the role of green areas, this project introduced a conscious increase in the share of biologically active areas and treated greenery as an integral component of the urban structure.

Thirty years after the first postwar exhibition, another IBA was implemented in Berlin, which this time concerned downtown development destroyed by hostilities and the division of the city⁵ (Salgo 2021). Six intervention areas were

² The exhibition was organized at a single location, covering an area of several dozen hectares.

³ Landscape architects were involved in the project only after numerous appeals by Walter Rossow.

⁴ The work was carried out by five design teams, each responsible for one section of the site and composed of a German and a foreign landscape architect.

⁵ The exhibition was held in West Berlin.

selected, and their revitalization and revalorization were to be a response to the growing criticism of the practices of demolishing historical heritage. During the preparation for the exhibition, two paths were designated: IBA-Neubau and IBA-Altbau, analogously taking up the threads of the so-called critical reconstruction⁶ and careful renovation of cultural heritage. As part of the first path, almost 5,000 new apartments were built in four locations. In Tegeler Hafen, located peripherally to the center, it was possible to design neighborhood park areas and create connections with peripheral green areas. Green façades of vines and green roofs became standard. These new greenery forms proved themselves particularly in the strict center, where the development index was higher. In the centrally located Südliches Tiergartenviertel, in building block No. 647 from the side of the Landwehrkanal, buildings were set back from the street, using extensive front gardens, and thus referring to the historical layout of buildings. In the area located by the Berlin Wall, ecological standards common today were tested and implemented for the first time: water-saving devices in all apartments, waste segregation, green infrastructure solutions – extensive green roofs, and blue infrastructure – the use of gray water to water greenery. A retention pond was built in one of the quarters (Fig. 3). The introduction of ecological threads into the exhibition space was caused by growing social involvement in environmental protection. The axis of activities under the second path – IBA-Altbau – was the illegal occupation of apartments and their shortage. Activities in the eastern part of the Kreuzberg district consisted mainly of renovating buildings and apartments in a cooperative process, which covered a total of over 7,000 residential units. In strict tenement housing, the predominant forms of greenery were roadside plantings, small neighborhood parks, green façades made of vines, and in individual cases, green roofs. Görlitzer Park was also revalorized as part of the IBA. The pilot renovation contributed to the introduction of subsidies for the renovation of buildings with cultural value, changes in legal practice regarding reconstruction and environmental protection, and led to the creation of social protection standards. In the 1980s, when urban planning was still technocratic in nature, in Berlin residents were recognized as active co-creators of space transformation. This exhibition introduced a new socio-economic paradigm to urban planning: the priority was to be the protection and modernization of existing buildings, instead of demolishing them and building new ones in their place⁷. In the following decades, it became one of the key models of urban policy in Europe.

IBA Emscher Park was the first large-scale exhibition: conceptual activities covered an area of a part of a federal state⁸ and were a reaction to the industrial decline of the

⁶ The new approach was based on giving priority to urban planning over architectural design and subordinating it to the context of the site. The landscape context and the presence of green spaces was an important element.

⁷ Although the role of IBA in the discourse on urban renewal is invaluable, it should also be noted that some individual projects implemented as part of the exhibition were later demolished.

⁸ The exhibition was implemented in the northern part of the Ruhr region in North Rhine-Westphalia, across the territory of 17 municipalities.



Fig. 2. Rain gardens near single-family housing in Hansaviertel, Berlin (photo by A. Gierko, 2018)

II. 2. Ogrody deszczowe przy zabudowie jednorodzinnej na terenie Hansaviertel w Berlinie (fot. A. Gierko, 2018)



Fig. 3. Retention pond at Dessauer Strasse in Berlin, remodeled in the early 21st century (photo by A. Gierko, 2025)

II. 3. Staw retencyjny przy Dessauer Strasse w Berlinie przebudowany na początku XXI w. (fot. A. Gierko, 2025)

region (Sieverts 1991; Dettmar, Rohler 2015). Landscape planning and urban development projects came to the fore for the first time in the history of building exhibitions. New ways of designing on a regional scale were developed, which went far beyond housing and urban life, and were undertaken to establish an identity and a fundamental ecological, economic, and cultural change of the degraded area. The exhibition adopted six leading themes: working in the park; new buildings and modernization of housing estates; industrial monuments; ecological renewal of the river system; promotion and social stimuli for urban development; creation of a regional park structure. For the first time as part of an IBA, issues related to the circular economy were addressed: in land use, building resources, energy consumption, and water management. Many postindustrial facilities were preserved and prepared for reuse. The implementation of a large-scale landscape design project and



Fig. 4. Biotürme, old coke production furnaces in Lauchhammer, revalorized as a part of IBA Fürst-Pückler-Land (photo by P. Sołowiej, 2023)

Il. 4. Biotürme, dawne piece do produkcji koksu w Lauchhammer, zrewaloryzowane w ramach IBA Fürst-Pückler-Land (fot. P. Sołowiej, 2023)

the establishment of the Emscher Landscape Park gave rise to new thinking about the landscape and natural values of postindustrial areas on a European scale.

Retrospective analysis indicates that Emscher Landschaftspark, together with Landschaftspark Duisburg Nord created on the site of a former factory, became an inspiration for the implementation of many similar landscape architecture sites based on the existing postindustrial fabric. In the context of the implementation and modernization of housing complexes, IBA Emscher Park presented systemic thinking about greenery and water. Hence, connections with the surroundings, green roofs, or rainwater management on a neighborhood scale appear as a standard. On a landscape scale, the most important project was the renaturalization of the Emscher River, which for years had been treated as a receiver of industrial wastewater. In contrast to previous exhibitions, which focused mainly on architecture and urban planning, IBA Emscher Park treated space as a tool for economic restructuring. The innovative aspect was primarily the use of industrial heritage as an economic resource, not a burden. In this sense, the exhibition can be seen as one of the first European examples of a comprehensive regional development strategy, integrating environmental, social, and economic factors into a single coherent model of action.

In 2010, two exhibitions were opened simultaneously for the first time, both in the area of the former East Germany. The aim of the IBA Fürst-Pückler-Land project was the reinterpretation and revalorization of the landscape of the rural region of Lower Lusatia after the cessation of mining, hence it became an important issue to build on the experiences of the previous exhibition. As part of the IBA, a process was initiated to transform the landscape of vast areas degraded by opencast lignite mining into areas attractive

to tourists (IBA Fürst-Pückler-Land 2012; IBA See 2025). The exhibition made 30 projects available to visitors, divided into 7 issues: industrial culture, water landscapes, energy landscapes, new territories, border landscapes, urban landscapes, and intermediate landscapes. Analogous to the experiences of IBA Emscher Park, also in Lower Lusatia many technical monuments gained a new function, and a concept expressed by the slogan “the future needs roots” was formulated (Fig. 4). As part of looking to the future, many places were designated for installations for generating electricity from renewable sources (Fig. 5). Most of the mines were intended to be flooded, resulting in the creation of the Lusatian Lake District, the largest artificial landscape in Europe, consisting of twenty lakes connected by navigable canals and a system of bicycle paths. Once again, the implementation within the exhibition became a reference point for the reclamation of postindustrial areas.

Taking place in nineteen cities of Saxony-Anhalt, IBA Stadtumbau⁹ addressed economic, social, and environmental perspectives for cities in the face of the withdrawal of industry from their areas, and consequently, population shrinkage and unemployment (IBA-Büro 2007; 2008). As a result of the exhibition, urban scenarios were created for cities in demographic stagnation, which also took into account the impact of future climate changes on the region and the need for energy transformation. It is significant that many cities feature high-value cultural heritage sites, which was often the starting point for transformations. The entire process was carried out jointly by the Bauhaus Dessau Foundation and a special purpose vehicle. It was in Dessau-Roßlau that one of the landscape projects was imple-

⁹ It was the first exhibition to encompass the entire federal state.

mented, touching upon the issues of deurbanization, natural values, social participation, and economic issues. Over the years, the demolition of buildings deemed not worth maintaining has created open areas throughout the city. In the long term, the city is to be transformed into a set of small centers, the core of which will be a coherent greenery system. Also in Schönebeck, the topic of abandoned areas was addressed: vacant plots in the city center, once occupied by industrial facilities, may become an attractive location for housing development in the future. In the meantime, they have been developed with flower meadows, divided into sections in places of historical plot division by hedges.

Historical tree avenues were re-valORIZED by planting new trees, thereby maintaining green connections between districts. In Weißenfels, where many factory buildings were demolished, an open area was created for compensatory plantings carried out by stakeholders in the food industry, which are still present in the city. In Staßfurt, where, as a result of mining damage after salt extraction and land subsidence, many buildings had to be demolished, including the town hall and church, and thus the town lost its historical center, a system was developed to drain built-up areas into an artificial water reservoir. The lake was created at the site of a depression cone, and the shores lined with white gravel are supposed to remind of salt: the cause of the city's development and then its degradation. A cultural heritage project whose solutions can also serve as a remedy for the future took place in Naumburg, where the House of Architecture and Environment was opened, offering visitors the chance to learn about historical clay architecture. This is, at the same time, an attempt to revitalize the city center, which was abandoned due to decentralization during the GDR era. As part of the exhibition, scenarios for rural areas were also developed, concerning transport, the end of the fossil fuel era, and tourism, combining social, economic, and environmental threads.

As a result of IBA Hamburg, ultimately over 17,000 apartments are to be built on the Elbe Islands. The realization of the new center of the Wilhelmsburg district was a pilot project to develop a new construction standard aimed at reducing construction and maintenance costs and optimizing the design and approval process, without lowering architectural and ecological quality (Hamm 2010). An important aspect was also the flexibility of residence. This standard is currently repeated in subsequent implementations of housing complexes¹⁰ (Hamm 2014). As a result of the exhibition, the following were built: a new town hall (Fig. 6) and a local activity center, as well as residential and commercial buildings (Fig. 7). In the field of green and blue infrastructure, the implementation presented a modern approach: existing greenery was adapted to the project, new roadside avenues, neighborhood and settlement parks were created, as well as systemic connections with peripheral green areas; various permeable surfaces were used in parking lots and planted with greenery, and retention swales were used along streets. Green roofs and green



Fig. 5. A photovoltaic installation (on the left) seen from a viewpoint on a mining machine adapted for tourism purposes in Lichterfeld-Schacksdorf (photo by P. Sołowiej, 2023)

Il. 5. Instalacja fotowoltaiczna (po lewej) widziana z punktu widokowego na zaadaptowanej na potrzeby turystyczne maszynie górniczej w Lichterfeld-Schacksdorf (fot. P. Sołowiej, 2023)

façades made of vines became a standard, and “green innovations” were favored by the simultaneous realization of an international horticultural exhibition¹¹.

The first cross-border exhibition was IBA Basel, which connected the territories of Germany, France, and Switzerland, covering an area with a radius of 30 km from Basel (IBA Basel 2025). The city was a national center of the chemical and pharmaceutical industries, and its character was largely defined by its port function. The main goal of the exhibition was to meet conventional border divisions and respect the tri-national character of the region. In accordance with the motto “Together crossing borders”, the organization aimed to build responsibility for the agglomeration through activities including the design of infrastructure, buildings, and green areas, as well as the stimulation of cross-border cooperation. Consequently, activities within IBA Basel focused around three areas. The first was the landscape. The exhibition aimed to show how green areas can be combined into coherent systems of open spaces that bring benefits to urbanized areas. Understanding their supra-local role was of particular importance. The second area of activity was urbanized spaces and the communication infrastructure connecting them. The implemented projects focused primarily on intensifying development along tram lines, S-Bahn stations, and railway stations. The latter were treated as key urban nodes of both functional

¹⁰ Three projects have been completed, while six are currently under construction.

¹¹ Internationale Gartenbauausstellung (IGA).



Fig. 6. The roofs of an office at Neuenfelder Strasse in Hamburg, covered with greenery (photo by A. Gierko, 2013)

Il. 6. Pokryte zielenią dachy urzędu przy Neuenfelder Strasse w Hamburgu (fot. A. Gierko, 2013)



Fig. 7. Experimental floating houses in the Wilhelmsburg neighborhood in Hamburg (photo by A. Gierko, 2023)

Il. 7. Eksperymentalne domy pływające na osiedlu Wilhelmsburg w Hamburgu (fot. A. Gierko, 2013)

and cultural importance. The third area concerned community building and a common vision for the future. As part of it, the challenge of transforming an agglomeration of independent municipalities and cities into a common space was undertaken. The factors that distinguished this exhibition from others were: cross-border planning, the creation of urban management instruments, and spaces for discussion not limited by formal divisions. This resulted in the creation of both effective urban connections stimulating the region economically, such as pedestrian and bicycle bridges and footbridges allowing for free circulation, as well as the im-

plementation of international socio-artistic activities. Most importantly, however, thanks to such an approach, it was possible to effectively rebuild or create green systems.

Two years later, activities began simultaneously within two exhibitions. One of them was IBA Heidelberg, located in the former West Germany. The identity of the city was strongly associated with its academic history and the oldest university in Germany. At the same time, Heidelberg experienced frequent resident turnover, which significantly affected the city's specificity (IBA Heidelberg 2019). The exhibition was intended to address needs related to new

spaces for knowledge and information exchange, as well as climate change, multimodal mobility, the use of new energy sources, and the improvement of the quality of urban greenery. As part of the exhibition, it was important to create affordable and easily accessible spaces, which was to respond to the aforementioned problem of frequent resident turnover. For the first time, on such a large scale, plans were presented for the revalorization of not only individual buildings but also entire districts that once served as military areas. Additionally, as part of the implementation of the greenery project, materials from demolition began to be used in one of such areas. In the case of shaping urban greenery, social consultations were held, which were part of more complex participatory processes. Furthermore, one of the projects presented new agricultural methods developed based on the idea of a circular economy, intended to enable more sustainable food production. Architectural activities included the expansion of existing buildings, which involved interference with the historical fabric of the city, and particularly concerned academic centers. The projects also referred to renewable energy sources, and a 55 m high facility was built, serving as an energy storage, viewpoint, and tourist attraction.

The second exhibition, which started at the same time, was IBA Thüringen, taking place in the former GDR. Its theme touched upon the problem of demographic disproportion between urban and rural areas¹². The main goals of the exhibition were: strengthening the economic position of the region, protecting the climate and transforming rural areas, using vacant buildings, opening up to immigrants, and building structures to support the introduction of innovative activities (IBA Thüringen 2023). Additionally, it was decided to put great emphasis on the region's strong point, that is its own production of wood and its derivatives¹³. The use of this material enabled the implementation of both standard projects and socially important ones that required rapid, systemic execution. In turn, the most characteristic activities carried out as part of this exhibition included adaptations of vacant buildings. They required the implementation of new legal regulations concerning empty houses and plots, but also a change in thinking about existing architecture. This resulted in the implementation of box-in-box projects, which used the shells of former buildings and, using light structures, freely and transformatively filled their interiors. Furthermore, in the social dimension, the perception of the role of the church also had to change. In Thuringia, 99% of about 2,000 Protestant churches are listed as monuments. They constitute a special cultural value but are also a challenge due to their number and the fact that many are not regularly used. To preserve locally important meeting places, it was decided to assign new functions to some churches. Transformations were also visible in the space between buildings, where, for example, a parking lot was transformed into an intergenerational space with a playground, impermeable

surfaces were unsealed, trees and shrubs were planted, and flower meadows were designed to increase local biodiversity and water infiltration.

The first exhibition carried out entirely outside Germany was IBA Parkstad. The exhibition took place in the Netherlands, in the area of 7 municipalities of the former Eastern Mining Region (IBA Parkstad 2025). In the 1970s, mines in this region were closed, intensifying social problems such as rising unemployment and accelerating the region's demographic shift towards an aging society. Faced with a declining population and a surplus of both residential and commercial real estate, IBA aimed to give new function to abandoned spaces and adapt the region to changing socio-economic realities. The main goals of the exhibition were to support urban renewal, develop new sectors of the economy such as healthcare and logistics, and promote energy transformation. A key element of the activities was engaging residents, which allowed not only for shaping the space in accordance with their needs but also for rebuilding their identification with the place. Thanks to the cooperation of the IBA organization and an external consulting company specializing in circular management and building demolition, some of the existing facilities could be dismantled in a way that enabled inventory and reuse of materials.

The last exhibition and simultaneously the second outside Germany was IBA Wien. The problems Vienna faces are an important factor in distinguishing it from several preceding exhibitions. For years, the city has experienced above-average population growth and related challenges (IBA_Wien 2022 2020). These included increases in housing prices and rents, a tendency to marginalize lower-income social groups in some parts of the city, the privatization of municipal housing, and politicians' withdrawal from initiatives to build housing. Therefore, the exhibition's main theme was "new social housing". It was to be based on an innovative approach to urban planning, which combined the optimization of construction methods, new financing models, and sustainable neighborhood development. The most important activity was adapting apartments to the changing needs of society, taking into account climatic, social, and economic factors. At the center of the activities was also the need to ensure the availability of municipal housing and mixed-use projects, and to strengthen the role of local governments, new support models, and social participation in the housing process. The buildings and housing estates created as part of the exhibition presented a comprehensive approach to the simultaneous design of architecture and urban greenery. To regulate the microclimate, the standard applied solutions included planting trees and low greenery and sowing meadows. Additionally, extensive green roofs and vertical greenery elements, such as vines on building walls, were present on many buildings (Fig. 8). Greenery on façades was applied to both newly designed and existing buildings. Water management included infiltration, drainage, and retention, as well as storage through the creation of features such as rain gardens. Furthermore, for the first time on such a scale, solutions that provide shelter not only for people but also for animals appeared at the IBA exhibitions. They took the form of bat shelters built into building structures, insect hotels on roofs,

¹² Approximately 90% of the federal state's territory can be classified as rural.

¹³ For example, insulation materials such as wood fibre or blown cellulose.



Fig. 8. Green façades made of vines in the Biotope City development in Vienna (photo by A. Gierko, 2022)

Il. 8. Zielone fasady z pnączy na osiedlu Biotope City w Wiedniu (fot. A. Gierko, 2022)

and “constructions” of stones or dead wood that served as natural habitats for small animals.

Conclusions

A chronological analysis of the exhibitions found changes in the approach to their organization (Table 1). Contemporary exhibitions no longer present only structural achievements or architectural realizations but are complex events involving urban transformations of districts and regions. Already the second postwar exhibition in Berlin addressed issues relevant from a contemporary perspective, concerning greenery as a key element of the urban landscape, social inequalities in access to housing, and the conservation of cultural heritage. Both in Berlin and in the subsequent IBA Emscher Park, social activation through participatory processes became important. In subsequent exhibitions, local stakeholders were important participants in the planning process, and events within IBA activities helped build more resilient communities. Starting with IBA Emscher Park, equipping local organizations and structures with the necessary planning and organizational strategies and instruments enabled cities or entire regions to change their spatial planning policies and shape a new identity, including an economic one.

Changes were also observed regarding thinking about the built environment (Table 2). From exhibition to exhibition, more and more projects concerned the circular economy: considering the life cycle of materials and the possi-

Table 1. Comparison of the IBAs investigated in the study (elaborated by A. Gierko, P. Sołowiej)
Tabela 1. Zestawienie IBA wziętych pod uwagę w badaniu (oprac. A. Gierko, P. Sołowiej)

	Environment	Society	Economy	Dominant paradigm
Interbau Berlin	●●○	●○○	●○○	postwar modernization
IBA Berlin	●●○	●●○	●●○	critique of modernism
IBA Emscher Park	●●●	●●○	●●●	postindustrial transformation
IBA Fürst-Pückler-Land	●●●	●●●	●●○	landscape regeneration after mining activities
IBA Stadtumbau	●●○	●●●	●●●	transformations of shrinking cities
IBA Hamburg	●●○	●●○	●●●	new construction standard
IBA Basel	●●●	●●○	●●●	cross-border integration
IBA Heidelberg	●●○	●●●	●●●	adaptation and climatic & social transformation
IBA Thüringen	●●●	●●●	●●●	strengthening synergy in the region
IBA Parkstad	●●○	●●●	●●●	urban regeneration
IBA Wien	●●●	●●●	●●●	new forms of living

Legend:

●○○ – marginal aspect, ●●○ – significant aspect, ●●● – key aspect.

Table 2. Matrix showing the evolution of the importance of sustainable development paradigms (elaborated by A. Gierko, P. Sołowiej)
 Tabela 2. Macierz ewolucji znaczenia paradygmatów zrównoważonego rozwoju (oprac. A. Gierko, P. Sołowiej)

Years	Exhibition name	Number of projects	Measures that consider aspects of		
			the environment	society	the economy
1957	Interbau Berlin	42 building projects	increase in biologically vital area ratio, planting trees	development with contemporary amenities	prefabricated technology
1979–1984/87	IBA Berlin	6 project areas	various forms of greenery and water, including pioneering solutions: retention pond, use of gray water	response to housing shortages, development of cooperative principles	adaptation to modern conditions, thinking about recycling
1989–1999	IBA Emscher Park	117	renaturalization of the river, protection of the postindustrial landscape	participatory redevelopment, new jobs	circular economy, revitalization of the industrial fabric, development of the Ruhr region's image
2000–2010	IBA Fürst-Pückler-Land	30	renaturalization of a post-mining area	activation of the local community, transformation of the region in a participatory process	revitalization of engineering monuments, RES
2002–2010	IBA Stadtumbau	19 cities	scenarios for climate change, conversion of brownfields into greenfields	scenarios for a shrinking population, heritage-based tourism and education, public participation	economic forms of greenery maintenance, RES
2006–2013	IBA Hamburg	86	various forms of greenery and water, including experimental solutions: façade with algae cultivation	building housing cooperatives, flexible forms of housing	optimization of the design and construction process, sustainable mobility, RES
2010–2020	IBA Basel	33	creation of ecological corridors, renaturalization of rivers and postindustrial areas	sustainable mobility, social participation, international cooperation, mixed housing	modernization of railway stations, cross-border cooperation
2012–2022	IBA Heidelberg	23	introduction of new agricultural methods, restoration of historic avenues, park design	participatory processes in the creation of development strategies	adaptation of former military sites, adaptation and expansion of existing buildings, RES
2012–2023	IBA Thüringen	32	creating an arboretum of urban, climate-resilient trees, unsealing paving	sustainable mobility, activating residents, preventing social isolation, caring for the elderly, caring for local memory	renovation and adaptation of monuments, low-tech solutions, use of local raw material, recycling of materials, planning guidelines for climate, carbon footprint calculation, RES
2013–2021	IBA Parkstad	50	green roofs, restoration of native plant species	public participation, design for senior citizens	building adaptation, transformable building design, sustainable and circular demolition, RES
2016–2022	IBA Wien	72	green roofs and walls, blue infrastructure, animal shelters	privately-owned and public housing complexes, mixed-use projects, sustainable mobility, public participation, inclusion of senior citizens, people with disabilities, children in projects	renovation and adaptation of buildings, design of transformable systems in buildings, RES

bility of their reuse after demolition. The first activities in this area were undertaken as part of IBA Emscher Park, while their clear intensification has been observed in recent years, starting with the exhibition in Heidelberg. Earlier, as part of IBA Fürst-Pückler-Land or IBA Stadtumbau, the issues of renewable energy sources were addressed. The ap-

proach to greenery and water in the city has also changed: from the introduction of single solutions to more complex, systemic activities.

However, despite high standards related to aspects of natural environment protection, and the fact that projects are verified and some rejected as not fitting the exhibition's

assumptions, some solutions may be subject to critical analysis. In IBA Parkstad (2021), the issue of urban recycling was addressed: although the demolition of buildings in the context of the region's socio-economic conditions is justified, the practice of demolishing and re-constructing buildings with identical uses in the same place may arouse controversy. Analogously, the contemporary implementation of new housing complexes based on IBA Hamburg models, in which an area of social and natural importance is transformed into a built-up area, requires evaluation from the perspective of contemporary sustainable development concepts.

Summary

IBA should be seen not only as a tool for urban policies but also as an example of a holistic approach to environmental, economic, and social issues. Over the decades of organizing successive exhibitions, it became possible to establish a mechanism where new events build upon previous ones. Exhibitions are organized in response to current and

local needs, but they also showcase practices developed over several years, which then resonate in a given region or in future IBAs. A comparison of successive exhibitions shows that many solutions now considered standard – such as a systemic approach to greenery and water, social participation, or the integration of spatial planning with economic policy – originated precisely within the IBA.

However, it should be noted that not all exhibitions can currently be clearly assessed and their effects observed. It is challenging to determine the true long-term impact of activities from exhibitions held over the past five years because the time span is too short. Nonetheless, it was possible to observe trends and changes in how exhibitions are organized and, within them, in their approaches to environmental, social, and economic aspects. This article can serve as an initial review and an introduction to further analyses, such as the impact of exhibitions on the natural environment.

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Streszczenie

Internationale Bauausstellungen jako wyraz transformacji paradygmatów środowiskowych, społecznych i ekonomicznych w architekturze i urbanistyce

Niemieckie międzynarodowe wystawy budowlane – Internationale Bauausstellungen (IBA) – to stosowane od początku XX w. narzędzie wspierania rozwoju i planowania architektonicznego i urbanistycznego. Tematyka poszczególnych edycji oraz zakres podejmowanych działań odpowiadają na aktualne problemy i wyzwania w wybranych lokalizacjach poprzez realizację inwestycji i inicjatyw towarzyszących.

Przedmiotem artykułu jest chronologiczna analiza działań podejmowanych w ramach każdej z wystaw, dotyczących środowiska przyrodniczego, społeczeństwa i ekonomii. Celem badania jest obserwacja ewolucji paradygmatów zrównoważonego rozwoju w architekturze i urbanistyce.

Wyniki przeprowadzonych analiz wskazują na wyraźny rozwój IBA – od wydarzeń koncentrujących się głównie na architekturze i rozwiązaniach konstrukcyjnych ku złożonym instrumentom transformacji przestrzennej. Analiza kolejnych edycji pozwoliła zaobserwować rosnące znaczenie zagadnień środowiskowych, społecznych i ekonomicznych, przy jednoczesnym odejściu od pojedynczych działań projektowych na rzecz interwencji systemowych i interdyscyplinarnych. Zauważalna jest także zmiana skali działań – od skupionych w obszarze jednego ośrodka miejskiego ku projektom o charakterze regionalnym i transgranicznym. Przekształceniu uległo również podejście do istniejącej tkanki miejskiej: zgodnie z ideą gospodarki obiegu zamkniętego coraz większą wartość przypisuje się adaptacji istniejących budynków i zespołów zabudowy. Równolegle wzrasta znaczenie partycypacji społecznej, która stopniowo staje się jednym z kluczowych narzędzi umożliwiających oddolną transformację na poziomie lokalnym.

Słowa kluczowe: Internationale Bauausstellung, zrównoważony rozwój, środowisko naturalne

