Leibniz Institute of
Ecological Urban and
Regional Development

IOER Leitbild

We research for the sustainable transformation
of neighbourhoods, cities, and regions

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Leibniz Association

DRESDEN concept

Our Leitbild

The *Leibniz Institute of Ecological Urban and Regional Development* (IOER) is a non-university research centre and a member of the Leibniz Association.

With the present vision and mission statement (Leitbild) we formulate strategic directions for the future development of the IOER. The Leitbild provides long-term orientations for our research and transfer activities, which are further operationalised in our research program. It equally stipulates principles in terms of organisation, management and cooperation. The Leitbild was developed in an open co-creation process with the staff members and is updated regularly.

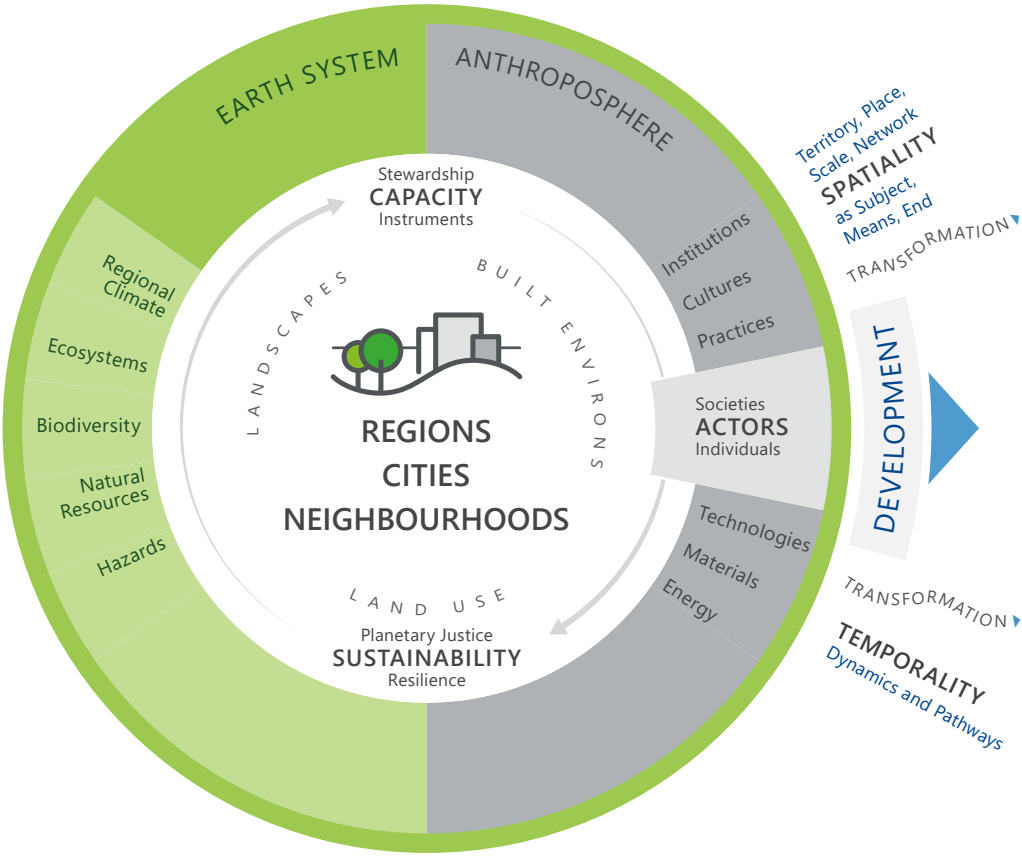
Our vision and aims

We contribute to a spatial development that enables humanity to thrive within ecological boundaries while ensuring planetary justice. Given the severity of the present global social-ecological crisis, our work aims to accelerate and achieve deep and encompassing transformations that shape sustainable and resilient regions, cities and neighbourhoods. As a leading centre for advanced spatial sustainability science we develop cross-scale spatial information, analysis tools and knowledge, as well as policy- and planning instruments that enhance adaptive and transformative capacities in territories and places. To that effect we strive to elucidate the internal and external sustainability orientations of individuals, organisations and society, as well as their embeddedness in socio-ecological-technological spatial configurations.

Our research subject

Current scientific evidence underlines the urgent need for socio-ecological transformations in spatial terms in order to achieve fundamental sustainability goals. Human activity exerts spatially differentiated pressures on the Earth system at all scales. Processes of industrialization and demographic change drive excessive local or telecoupled environmental pressures, with major regional variation in growth dynamics. This includes ecosystem destruction, species extinction, resource extraction, pollutant emissions, soil sealing or waste disposal, among others. In turn human settlements are increasingly exposed to diverse natural hazards with highly uneven geographical distributions. In this, technologies and especially digitalization play an ambivalent role since they can both reinforce and alleviate pressures and risks.

In view of these challenges we investigate the features, patterns and dynamics of socio-ecological-technological spatial configurations. Our research focuses on landscapes, the built environment, land use and economic interactions to explore and compare their development and transformation, particularly in the territorial context of urban districts, cities and agglomerations, urbanized and rural areas, as well as regions and countries – including cross-border areas. Key environmental factors we examine are the regional climate, ecosystems, biodiversity, resources and natural hazards. As corresponding physical factors of society we study technologies, materials and energy. Ultimately, our principal concern is the spatial coevolution of these factors with societal institutions, cultures and practices regarding sustainability and resilience impacts. This implies especially considering the role of different individuals and actors, their intersectionality and interactions, as well as society as a whole in co-shaping spatial developments.



The IOER research perspective: *We examine the development and transformation of neighbourhoods, cities and regions. In doing so, we include factors of the natural and man-made environment across scales, as well as social structures and practices. Our main interest is the spatial interaction of these factors and the ability to influence their sustainability and resilience effects.*

Our research and transfer approach

Our research is original and of high societal relevance, pushing the boundaries of scientific knowledge. We draw on the spatial, environmental, social, economic, law and engineering sciences, using notions of spatiality as a shared reference. This ranges from physical-material space to conceptions of space as relational and socially constructed, to subjective experiential and inner space, as well as digital space. Given the complexity and dynamics of our subject, we use and expedite integrated mono-, inter- and transdisciplinary research approaches: To advance comprehensive understandings we develop interdisciplinary research designs while using disciplinary perspectives to scrutinise individual aspects. Furthermore, together with public, private and civil society stakeholders we co-design transdisciplinary research approaches such as living labs or citizen science to enable knowledge coproduction and co-creation, ensuring reflexivity of our role as scientists in a given spatial development context.

Through our research approach we generate systemic knowledge about spatial configurations, their past and present, and about their changeability as well as possible and desirable futures. From this we derive alternative spatial development pathways and the conditions, approaches and interventions required to foster transformative change. Accordingly we develop concepts, methods and tools for science and society to understand, assess and purposefully shape spatial change, as well as the role of spatiality as a subject, means or end of sustainability transformations. This includes notably spatial data analysis, monitoring and prospective modelling approaches, formal and informal policy- and planning instruments in the spatial and environmental domains, as well as reflexivity formats concerning individual or community orientations and practices.

Our research results support the achievement of key societal goals linked to spatial development including the UN and EU Urban Agendas, EU Territorial Agenda, Leipzig Charter and Basque declaration, as well as the UN SDGs and related international environmental commitments such as the UN conventions on climate change (UN FCCC) and

biodiversity (UN CBD). Moreover, our research results enable public authorities at all levels as well as civil society and private sector actors to move beyond compliance, jointly leveraging systemic innovations in human-environment relations and developing collective stewardship of sustainable and resilient spatial areas.

To foster the impacts of our research on science and society we practice knowledge transfer as an integral part of our work. We engage in science and practice networks at international, European and national levels as well as in the local and regional context of our locations in Dresden and Görlitz. In so doing we support continuous exchange, knowledge coproduction and co-creation, including with a view to inform the development of spatial and environmental regulation and frameworks in Germany and Europe. Through our networks we equally expand our research collaborations and long-term strategic partnerships, and create preconditions for empirical studies in pertinent locations. Our knowledge transfer approach focuses on leverage points and related target groups, drawing on a broad range of methods – including data infrastructures, direct stakeholder involvement, as well as diverse interaction, communication and publication formats. It is committed to Open Science and allows assessing the utilization and impacts of our results.

Our research organization and ethics

We develop our research programme in an open and participatory process, involving also local and inter-/national partners and stakeholders from science and society. Our organisational structures and rules as well as the collaboration between our scientific and service staff support the efficient and effective implementation of our research and transfer activities. They equally promote scientific cooperation, knowledge integration and innovation.

We highly value an inspiring, motivating and collaborative work environment, and an organisational culture characterised by openness, trust, appreciation, creativity and learning. We promote gender equality and appreciate the diversity of our team. We offer opportunities to develop new competencies and skills to all staff members. In particular we promote the qualification of young scientists based on structured support. We engage in scientific education in cooperation with universities in general, and the TU Dresden in particular.

Our work aligns with the principles of good scientific practice as well as responsible research and innovation. We strive to anticipate and assess possible implications of our research for science, society and the environment. Moreover, we incorporate the guiding principle of strong sustainability in all our structures and operations.

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