

## OUR MISSION

The Morgenstadt Global Smart Cities Initiative (MGI) contributes to a low-emission, environmentally conscious and innovative urban development of the project cities Kochi (India), Saltillo (Mexico) and Piura (Peru) as well as to the achievement of the Sustainable Development Goals, in particular Sustainable Development Goal 11 (SDG 11). It supports the pilot cities in the development and implementation of analytical methods, strategic planning tools and in building local expertise for a holistic, long-term and sustainable urban development process. The aim of the initiative is to induce a long-term and sustainable transformation process leading to replicable and affordable solutions for a resource-efficient, resilient and livable city of tomorrow.

### KEY OUTPUT

- ✓ Creation of a city profile to illustrate performance, requirements and strategies regarding sustainability
- ✓ Identification and evaluation of projects to enhance the sustainability profile
- ✓ Assessment of proposed projects in terms of financing and technologies
- ✓ Preparation of an investment plan: financial and promotional instruments
- ✓ Development of an implementation roadmap
- ✓ Support for multi-stakeholder management and capacity building
- ✓ Implementation of selected pilot projects

## CONTACT

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Global Smart Cities Initiative

## OUR PARTNERS



## MORGENSTADT GLOBAL SMART CITIES INITIATIVE: GLOBAL APPROACH, LOCAL SOLUTIONS

Coordinated by:



Supported by:



based on a decision of the German Bundestag

## INTERNATIONAL CLIMATE INITIATIVE (IKI)

MGI is financed by the International Climate Initiative (IKI) of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). As the central funding instrument for climate and biodiversity projects, IKI has been financing projects focusing on the contribution to climate protection, adaptation to the impacts of climate change and the protection of biological diversity since 2008.

### OUR APPROACH

The analysis of the pilot cities draws on the expertise and experience of the Morgenstadt Network with 40 partners from business, research and local authorities as well as the Morgenstadt Tools. At the heart of the initiative are the City Labs, which by evaluating the status quo in an integrated planning process and a holistic city analysis, identify key opportunities and risks, taking social, economic and environmental factors into account. The City Lab Framework is based on three dimensions of the urban system, which are crucial for successful sustainable urban development: Urban governance, socio-economic strategies and technology and infrastructure.

### PARTICIPATING CITIES

MGI cooperates with three cities in countries that are strongly affected by climatic influences and at the same time show a high degree of urbanization: Kochi (India), Saltillo (Mexico) and Piura (Peru)

## BRIEF OVERVIEW

### COORDINATION OF THE OVERALL PROJECT

University of Stuttgart represented by the Institute for Industrial Engineering and Technology Management IAT in cooperation with the Fraunhofer Institute for Industrial Engineering IAO.

### IMPLEMENTATION PARTNERS

- ✓ Fraunhofer Institute for Industrial Engineering IAO, coordination Piura
- ✓ Fraunhofer Institute for Building Physics IBP
- ✓ Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB, coordination Kochi
- ✓ Fraunhofer Institute for Solar Energy System ISE
- ✓ Fraunhofer Institute for Systems and Innovation Research ISI, coordination Saltillo
- ✓ Frankfurt School of Finance & Management FSFM
- ✓ Cochin Smart Missions Ltd CSML, India
- ✓ Monterrey Institute of Technology and Higher Education
- ✓ ITESM, Mexico
- ✓ Municipality of Piura, Peru
- ✓ National Institute of Urban Affairs NIUA, India
- ✓ Saltillo Municipal Institute of Planning IMPLAN, Mexico
- ✓ University of Piura UDEP, Peru



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## CITIES

### KOCHI, INDIA

With its location in the Ernakulam district of Kerala State, surrounded by the Arabian Sea and over 600,000 inhabitants, Kochi is one of India's major ports. Especially In the fields of finance, trade and tourism, Kochi is considered one of the most important cities on the west coast.

India ranks fifth among the countries most severely affected by climate-related risks in 2018. Climate change effects are noticeable through the unpredictability of the monsoon season, more frequent heavy rainfall and extreme heat waves. With its low position averaging two meters above sea level, Kochi is directly threatened by rising sea levels.

In order to increase resilience towards the effects of climate change, MGI will work primarily in the energy, housing and water sectors, with a focus on energy efficiency, water pollution control and locally adapted construction methods.

### SALTILLO, MEXICO

With almost one million inhabitants, Saltillo is the capital as well as the largest city in the state of Coahuila de Zaragoza in northeastern Mexico.

For an emerging economy with 80 percent of the population living in urban areas, population growth and the steady trend towards urbanization inevitably constitute social and environmental challenges. Due to a dry, medium-warm climate with scarce rainfall, which increases in summer, the Saltillo region is often threatened by droughts, extreme temperatures and flooding. Therefore, MGI is mainly concerned with the sectors energy, mobility and water, as these sectors pose great challenges to the city. The project considers climate change mitigation and adaptation as an overarching priority among the different sectors.

### PIURA, PERU

With 473,000 inhabitants, Piura is the fifth largest city in Peru and the capital of the Piura region, located in the northwest of the country on the banks of the Chira River.

Rapid growth of the city and its population as well as the lack of long-term urban planning strategies have led to an expansion of settlements in environmentally sensitive areas. Due to its geographical location, Peru is particularly affected by the consequences of climate change, with extreme temperature fluctuations and irregular rainfall as well as the melting of the Andean glaciers. Piura is particularly exposed to the climatic phenomena of "El Niño" and "La Niña" and has repeatedly suffered the consequences of floods and landslides, causing hundreds of people to lose their lives and homes in 2017.

In Piura, MGI focuses on the urban planning, water and energy sectors in order to increase resilience to climate risks.