

SOLUTIONS

for Smart Urban Areas



wilo



WILO PROFILE

The Wilo Group is one of the **world's leading premium providers** of pumps and pump systems for the building services, water management and industrial sectors. In the past decade, we have developed from a hidden champion into a visible and connected champion. Today, Wilo has around 8,000 employees worldwide.

Our innovative solutions, smart products and individual services move water in an **intelligent, efficient and climate-friendly** manner. We are also making an important contribution to climate protection with our sustainability strategy and in conjunction with our partners. We are systematically pressing ahead with the digital transformation of the Group. We are already the digital pioneer in the industry with our products and solutions, processes and business models.

SMART URBAN ZONES



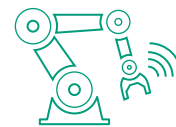
RECREATION



COMMERCIAL
& INSTITUTION



HOUSING & LIVING



INDUSTRY



TRANSPORTATION
& INFRASTRUCTURE



AGRICULTURE

“WITH OUR INTELLIGENT AND CONNECTED SOLUTIONS, WE CAN MAKE AN IMPORTANT CONTRIBUTION TO THE EVOLUTION OF CITIES INTO SMART URBAN AREAS. THANKS TO THE SIGNIFICANTLY LOWER ENERGY CONSUMPTION, WE ARE HELPING TO SLOW DOWN CLIMATE CHANGE.”

Oliver Hermes, Chairman of the Executive Board and Chief Executive Officer (CEO)



55 %

of all people live in cities. In 2050, it will be around 70%.

75 %

of all greenhouse gases are produced in cities.

90 %

of all urban areas are near the coast, which makes them particularly vulnerable to rising sea levels.

70 %

of all cities are already feeling the effects of climate change.

THE FIGHT FOR THE CLIMATE WILL BE WON IN THE CITIES.

Advancing urbanisation, digital transformation and the challenges of climate change are making it necessary to rethink cities. Climate change can only be halted if intelligent technologies and networked systems can be used successfully to drastically reduce cities' energy consumption. Pumps consume around ten percent of the electricity generated worldwide. Most of them are outdated and used in urban areas. Highly efficient and smart Wilo products of the latest generation offer significant energy-saving potential and allow more conservative use of the precious resource that is water.



DUBAI

GROWING SMART

Urbanisation will advance rapidly in the coming decades. More and more people will move from the country to the city. City infrastructure will be tested to its limits. At the same time, climate change is necessitating a fundamental realignment to CO₂-neutral energy management. In order to meet these challenges while making the cities of the future fit places to live, people around the world are coming up with intelligent, digital concepts for cities: **Smart Urban Areas**.

INTELLIGENT

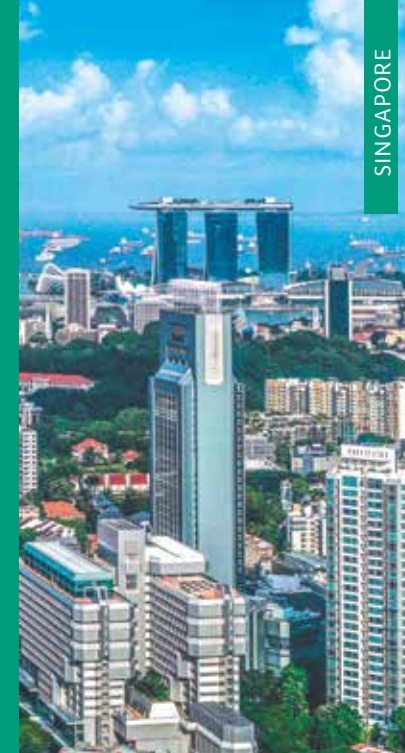
All smart-city concepts are based on data. Data is the essential requirement for clever planning and digital solutions. More and more cities are therefore establishing structures to collect this data – such as Chicago. The US metropolis has installed an interactive network of sensors that gather data on factors from air quality to water levels that forms the basis for optimizing how the city is run.



CHICAGO

CONNECTED

Collected data only becomes smart data through communication. Interconnection links individual technological solutions together into intelligent concepts. For example, interconnected mobility services can significantly reduce commute times. Networked water meters can save up to 80 litres of water per person per day. A trailblazer among smart cities is Singapore. The city on the equator is installing smart transport, water supply and waste recycling systems and gradually offering ever more government services in digital form. However, Dubai has also pledged to become the smartest city in the world by 2021. In order to reach this goal, over 500 interconnected initiatives have already been launched.



SINGAPORE

LIVEABLE

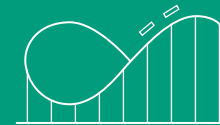
Innovative technologies will make sure that people are provided for in the long term. They enable the efficiency and flexibility necessary to adapt urban infrastructure to the growing population while conserving resources. The primary objective of forward-looking smart-city concepts is to preserve and improve people's quality of life. This depends on the protection of natural resources so that they are still available for future generations. However, it is also necessary to make urban areas more green and attractive, such as in Milan, where the twin "Bosco Verticale" (Vertical Forest) towers enrich the climate with around 900 trees and roughly 2,000 other plants.



MILAN

WE PROVIDE SOLUTIONS FOR SMART URBAN AREAS

In Smart Urban Areas, urban infrastructure and many areas of life are connected with each other digitally and intelligently. They can be divided into **six zones**. These zones represent different requirements and functions. Wilo develops customised, energy-efficient and smart solutions to meet the various challenges.



RECREATION

This zone encompasses all the areas that serve recreation, such as leisure parks, opera houses or sports stadiums. The strongly fluctuating need for water supply and water disposal over time with periodic peaks constitutes a particular challenge for the pump systems. Wilo's flexible and comprehensive portfolio meets this need perfectly, and has solutions on hand for all tasks.



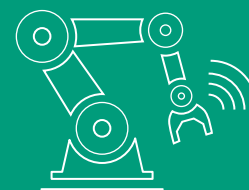
COMMERCIAL & INSTITUTION

Office towers, universities, hotel complexes – this zone encompasses large buildings, primarily for commercial use. The growth of towns means increasing complexity in building management and new challenges in terms of technical connectivity. Wilo products offer the opportunity of connectivity, and can always be integrated everywhere into existing building services.



HOUSING & LIVING

The zone that encompasses the living spaces within a town or city is characterised primarily by the need for amenities and individualisation. This means the most demanding requirements for the selection and operation of heating and air-conditioning systems. Drinking water applications must also meet the maximum hygiene standards. Wilo solutions can also be easily integrated into existing smart-living concepts.



INDUSTRY

Alongside operational reliability and energy efficiency, material quality and the maintenance of standards also have a particular role to play in industry. Industrial locations will also change with the transformation of cityscapes. With the highest quality requirements for our products, Wilo systems offer high efficiency, long service life and operational reliability for a variety of industrial applications.



TRANSPORTATION & INFRASTRUCTURE

The hubs of the city's infrastructure, such as airports, stations or harbours, are integrated into this zone. The reliable sewage transport is particularly important, given constant population growth. Wilo solutions ensure simple and highly efficient sewage transport with robust and reliable solid separation systems.



AGRICULTURE

Areas used for agriculture are extending into city structures with growing Smart Urban Areas. Green roofs, vertical farms or inner-city parcels used for agriculture will improve the supply and climate of urban areas. Reliable and sustainable irrigation is indispensable. For this, Wilo offers highly efficient and resource-efficient solutions, from raw water intake to irrigation.



ULAANBAATAR, MONGOLIA



SHANGHAI, CHINA



VIENNA, AUSTRIA



TRANSPORTATION & INFRASTRUCTURE

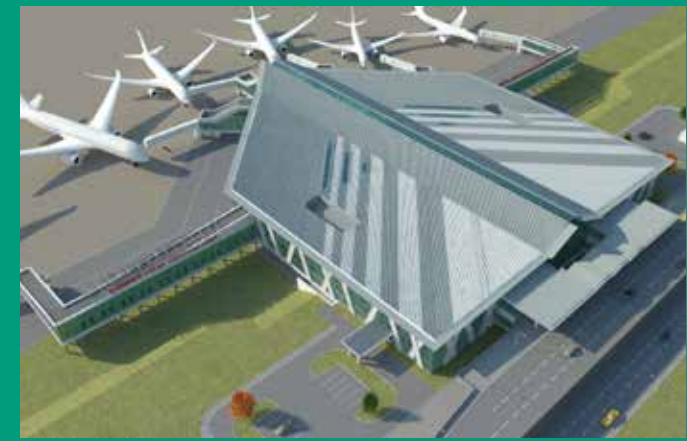
The biggest challenge in a smart urban area is establishing a functional transportation system and infrastructure – not only in terms of traffic on the roads, but also when it comes to supplying people with energy and water.

Providing residents with smart, efficient access to clean drinking water and reliable wastewater transportation pose particular challenges for the network. The aim of efficient water management is to ensure consistent water quality as well as sustainable water consumption.

AIRPORT OF MONGOLIA



LOCATION
Ulaanbaatar, Mongolia
PROJECT
Airport

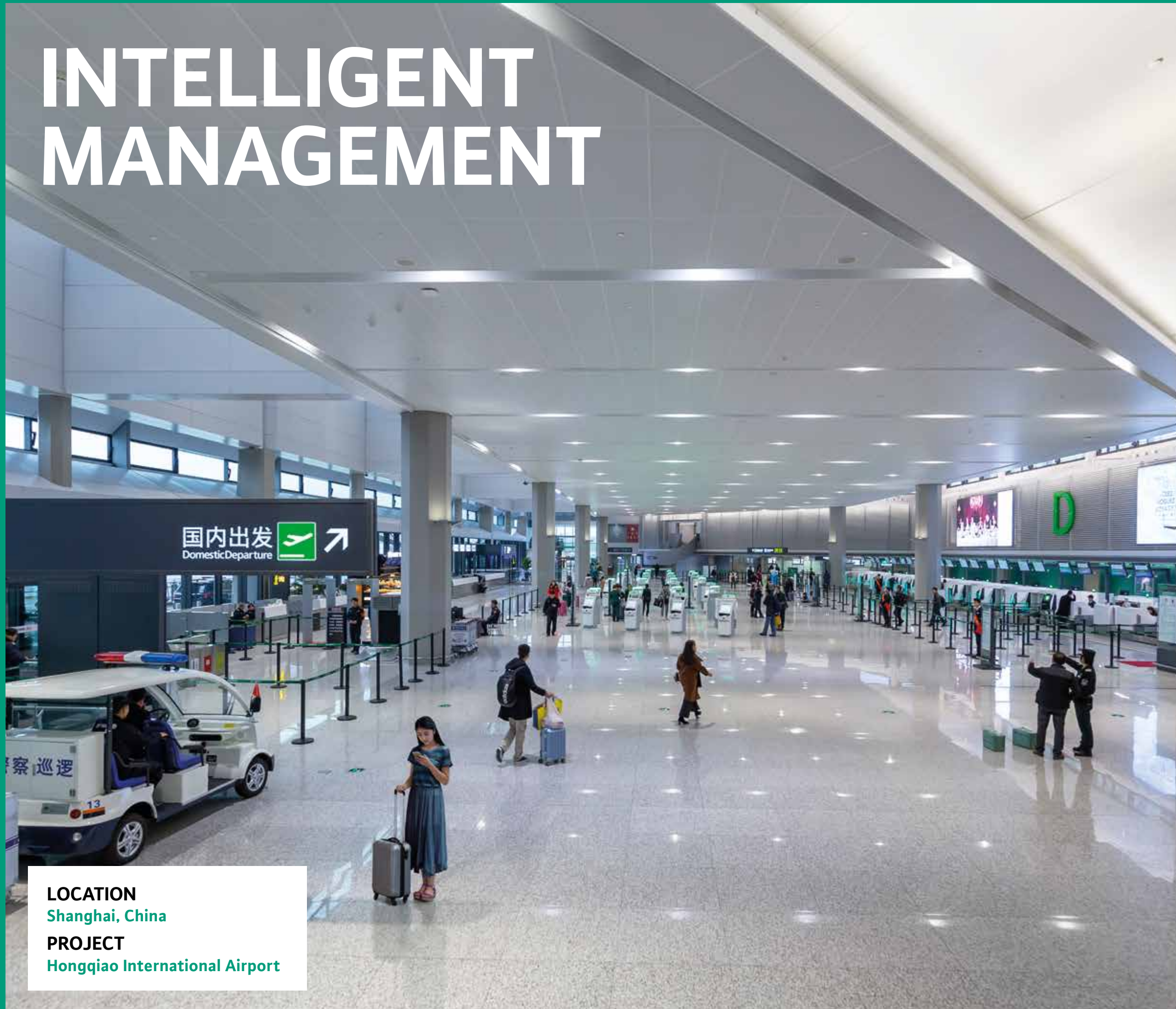


PROVIDING SAFETY

The Ulaanbaatar International Airport (NUBIA) is being constructed at Khushigt Valley in Tuv Province. Also known as Khöshig Valley Airport, construction started in May 2013. The airport will be capable of handling approximately three million passengers a year. New infrastructure and reserved land will enable future expansions to serve an estimated 12 million passengers a year. Wilo provides smart and efficient pump systems and solutions to ensure the building operations, including highly reliable firefighting systems.



INTELLIGENT MANAGEMENT



LOCATION
Shanghai, China
PROJECT
Hongqiao International Airport



DIGITALISED SERVICES

Pioneering services are as much a key to success as innovative products. “WiloCare”, which is used at Hongqiao International Airport, is a comprehensive cloud- based service package that relieves the burden on the customer to the greatest possible extent and guarantees pump operation with maximum reliability.



WILOCARE

VIENNAS MAIN TRAIN HUB



LOCATION
Vienna, Austria
PROJECT
Railway Station



FLEXIBLE AND POWERFUL

More than 1,100 trains arrive daily at the Vienna Main Station, with roughly 145,000 passengers. They spend their waiting time at the 20,000 m² large shopping centre and in addition, thousands of visitors park their cars in the multi-storey underground car park. The uncontrollable use of sanitary facilities can be a challenge due to uncontrolled solids content ending up in the wastewater system.



WELCOME TO THE FUTURE

The largest location development programme in the company's history is bringing Wilo's headquarters in Dortmund into the digital future. Production, administration, product development and customer service are being interconnected and combined into the Wilo Group's number one digital location – the WiloPark Dortmund.

The WiloPark Dortmund is not only a pioneering company headquarters where machinery, workstations and buildings will be interlinked. It will also network with the surrounding infrastructure. The Wilo headquarters will therefore become a part of the nascent Ruhr Smart Urban Area.

PUBLISHING INFORMATION

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44263 Dortmund, Germany

Concept and design

KorteMaerzWolff
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