

# SOLUTIONS

for Smart Urban Areas

Agriculture



wilo

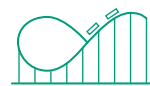


## WILO PROFILE

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



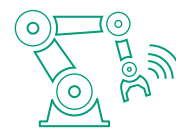
RECREATION



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%.

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**75 %**

of all greenhouse gases are produced in cities.

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**90 %**

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

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**70 %**

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

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## 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 CO<sub>2</sub>-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

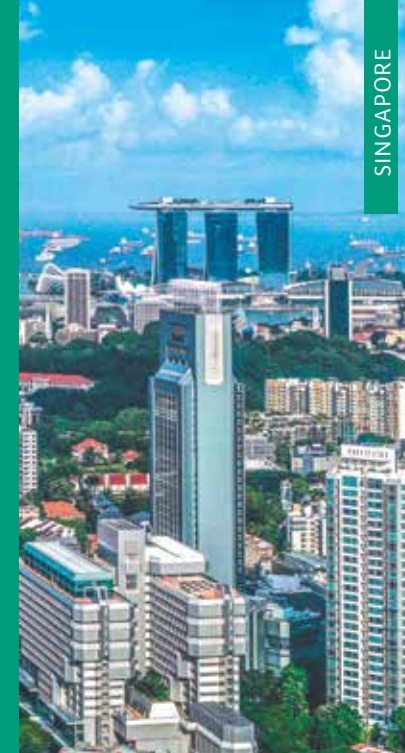
All smart-city concepts are based on data. Data is the essential requirement for clever planning and digital solutions. More and more cities are therefore establishing structures to collect this data – such as Chicago. The US metropolis has installed an interactive network of sensors that gather data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



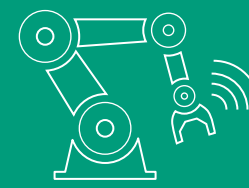
## COMMERCIAL & INSTITUTION

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.



KISSI, GHANA



EMERALD, AUSTRALIA



SUMATRA, INDONESIA



## AGRICULTURE

As Smart Urban Areas grow, agricultural spaces are spreading to urban structures. Green roofs, vertical farms and inner-city plots of land used for agriculture will improve the supply and the climate of urban areas. Our innovative product solutions support the sustainable design and redesign of conventional irrigation systems in both traditional and unconventional agriculture. Above all else, sustainable and efficient water management prevents the unnecessary lowering of the ground-water table and ensures the careful use of water as a resource. As well as being particularly resource-conserving, from water extraction through to irrigation, our Wilo solutions contribute to climate protection through the use of renewable energies such as solar power and can even be used where there is no electricity infrastructure.



# WATER THANKS TO THE SUN



**LOCATION**  
Kissi, Ghana  
**PROJECT**  
Baobab Children Foundation



## INDEPENDENT AND SOLAR-POWERED

Running water from the tap cannot be taken for granted all over the world. The resource is growing scarcer, quality is declining and sourcing it is costly without electrical infrastructure. With the Wilo-Actun OPTI-MS, Wilo offers a highly efficient, solar-powered solution that is independent of generators and can be controlled via an app.





# RECYCLING PRECIOUS WATER



## PREMIUM PUMP SOLUTION

The Wastewater Treatment Plant (WWTP) close to the Nogoa River in Queensland processes the wastewater from a population of over 10,000 people into sustainable effluent irrigation to be used in the region. Prior to the much needed redevelopment, the WWTP was under pressure, receiving almost twice its hydraulic capacity. The efficiency of this particular pump station is especially important, not only due to a quickly growing population but also due to the frequency of droughts in the area and the positive impact recycled water has during these dramatic environmental events. The plant required premium pump solutions that would not only double their capacity, but could also be installed efficiently, operated easily and maintained locally.

### LOCATION

Emerald, Australia

### PROJECT

Wastewater Treatment Plant



# SOLUTIONS FOR REMOTE REGIONS

## SUSTAINABLE AND LOCAL

Reliably supplying water in remote regions not connected to the power grid is a challenge. Farmers from the Talawi Village in the West Sumatera Province (Indonesia) farm about 30ha of rice fields high above the nearest river. Due to a lack of rain during the dry season, the farmers could only harvest the fields one time a year. Using water from the river would be an option but pumps operating with gasoline or diesel engines were too expensive. Wilo provided a set of solar borehole pumps, transferring water from the river. Now farmers can operate the pumps themselves with no oncosts for energy and can harvest their fields two to three times a year.

**LOCATION**  
Sumatra, Indonesia  
**PROJECT**  
Watering Fields





# 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

### Publisher

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