



Smart City solutions
for the development of your village or city

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**SMART
CITY**

smart solutions for your city

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Welcome



Ing. Igor Kolla, PhD.
General Manager

Dear local authorities,

we are entering the era of smart cities, where technology is not just a tool, but a real service for citizens. Our company is ready to be your reliable partner in building a modern, efficient and sustainable city. Smart city solutions bring data for better decision-making, effectively connecting citizens with local government, optimize costs and improve quality of life in a connected urban environment.

We bring the most modern solutions developed by our Slovak team, which we constantly innovate and adapt to the needs of cities.

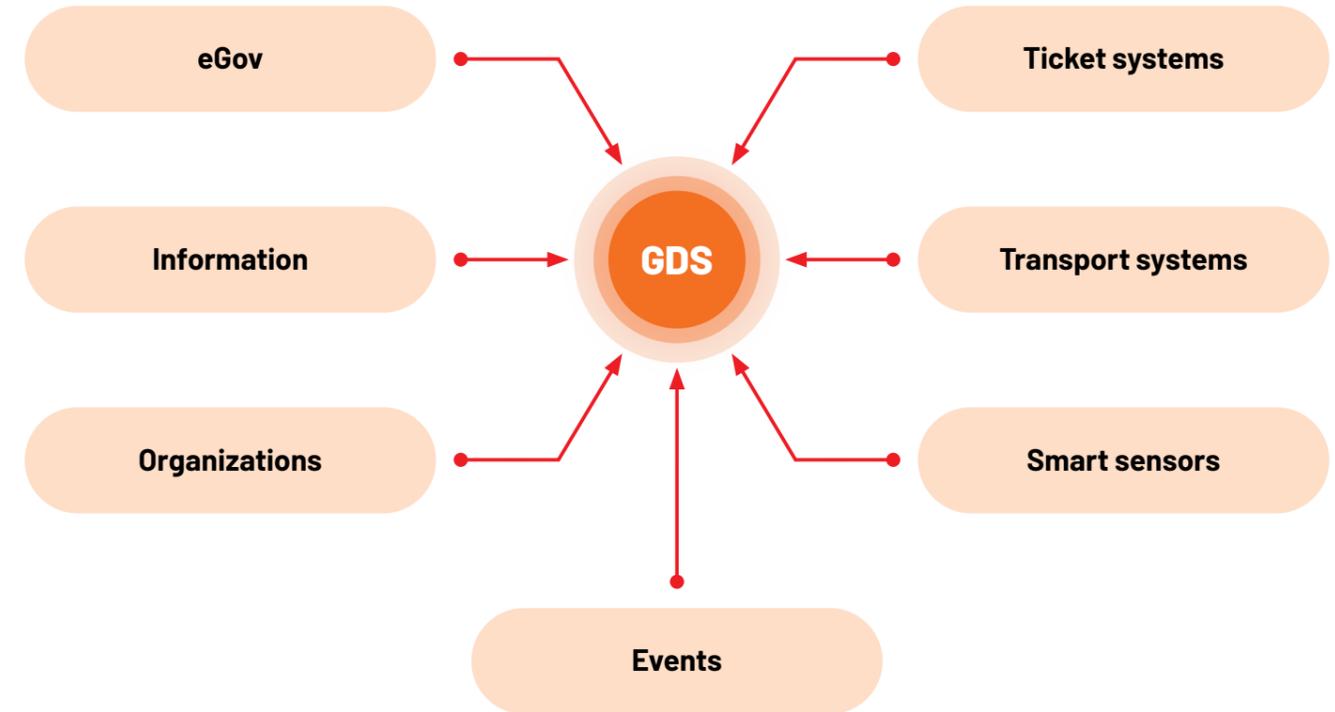
We are here for you with full support and professional assistance to create together the city of the future.

GDS platform

In public administration, a number of information systems are used by citizens on a daily basis in various life situations, which are also needed by the city or municipality for administration, decision-making and planning. However, these systems often operate separately, are not interconnected and fail to offer a unified user experience. There is a lack of interconnectivity, logical continuity of data and its analysis in different layers that would lead to better decision support.

The unique Global Data System (GDS) platform connects disparate data and services into a unified technology environment that allows data to be visualized, analysed, and efficiently managed across city agendas. The GDS unifies information from public administration, infrastructure, transport, security and civil services and provides it in a clear and user-friendly format.

The solution is fully open - it allows easy connection to other systems, data exchange and transfer, as well as its publication for public or analytical purposes.



Location and service data in one place

Data connectivity between each other

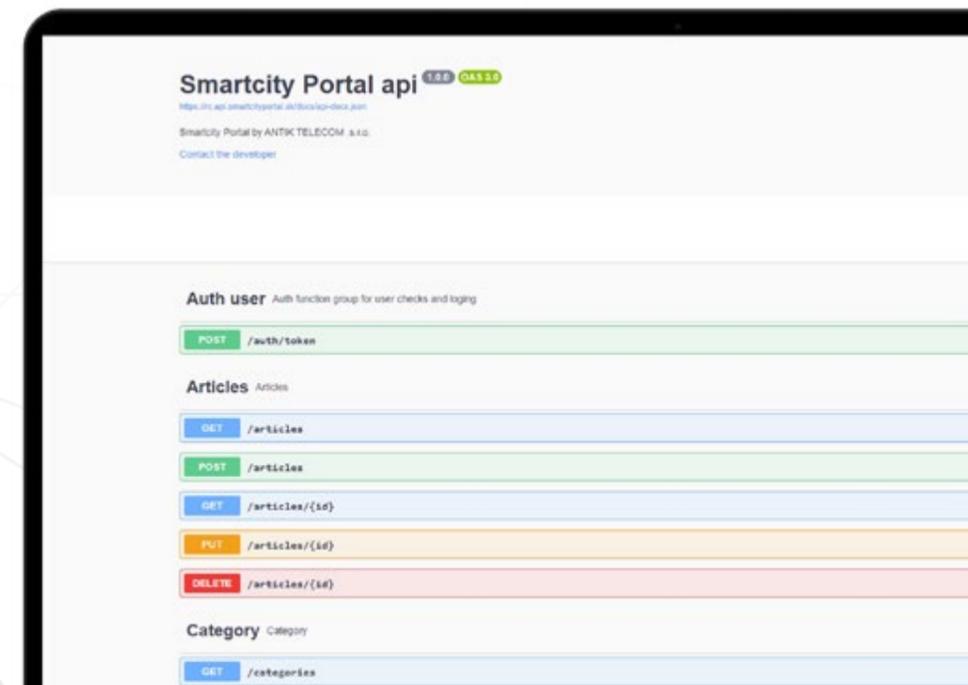
Real time analysis

Clear and open environment

Decision making based on data

Information and on-line services for citizens

Our partners have a complete API with detailed documentation that allows easy integration with other systems and services.



Data and management in one place

The Dashboard offers a view of all data and services from the GDS platform in one place. Local authority can see the data in real time, easily bundle, analyse, export and adjust it to their needs. Different user rights ensure the correct distribution of responsibilities in the administration of the system.

Smart sensors in one place

Get insightful analysis of key data with the ability to link and visualize it in a variety of formats - from reports and charts to lists and interactive maps with export options.

Complete information on citizens in one place

Integration with the municipal information system and state registers will allow you to efficiently manage citizen data. Activate different functions, services or benefits for citizens in different categories.

Clear management of events and places of interest

All information about events, sold tickets and places of interest are in one system. Simplify organisation and promote events through different communication channels.

Effective management of information flow

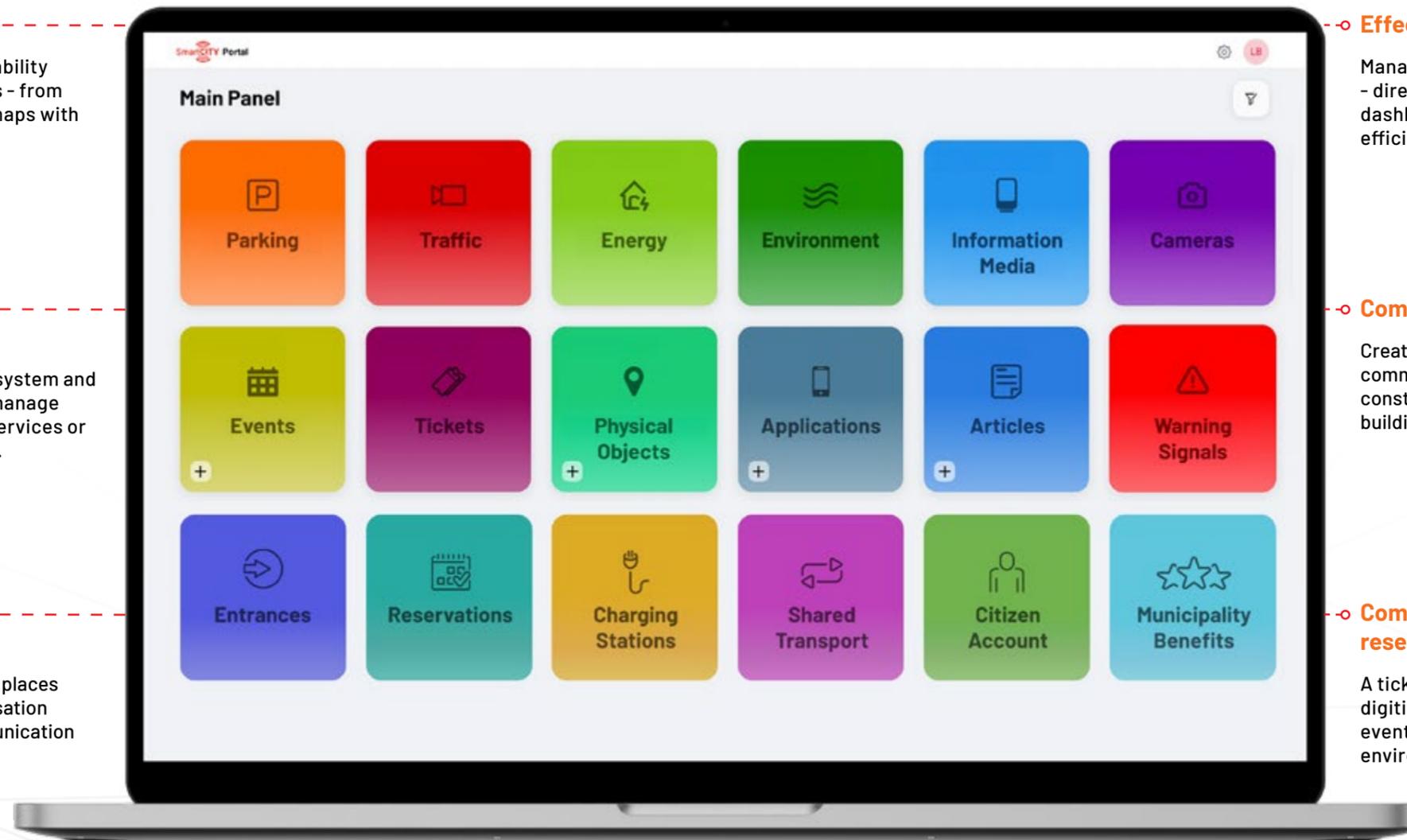
Manage the flow of platform data and content easily - directly to the web portal, mobile application, dashboards or digital signage to ensure smooth and efficient communication with citizens.

Community platform

Create communities to share information and communicate with each other, and you'll keep them constantly connected. Clubs, groups, apartment buildings or local businesses can use the city's solution.

Complete digital system for entries and reservations

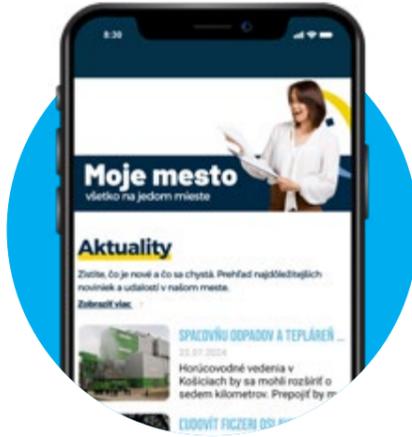
A ticketing, booking and admission system that digitises the management of places of interest, events and admission management in urban environments that have not been digitised before.



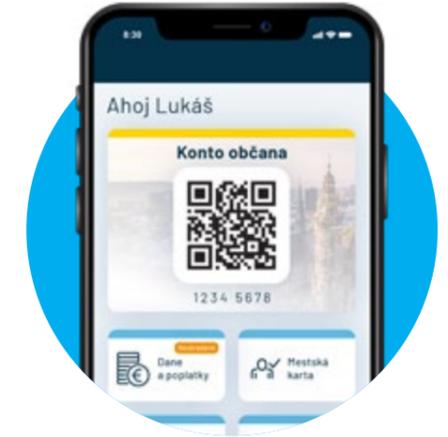
Mobile application

Thanks to the mobile application, citizens will have the entire city in their pocket. They can find all the information from the municipality and organizations, see all the events, places of interest, sports venues, clubs, groups and complete transport in their city. Simply, with one click, they can open any sports or waste stand, book a swimming lesson, and buy a ticket for the swimming pool, public transport, parking or any event. They will receive information on the current state of traffic throughput with a search for free parking spaces or public transport delays. In the citizen's profile, they will see all purchased services, taxes, fees, waste, surveys, stock exchange, electronic forms and city benefits. With the help of the community system, citizens are connected to clubs, groups and each other.

Current information
from the city and city districts



Citizen's account
with eGov services and benefits

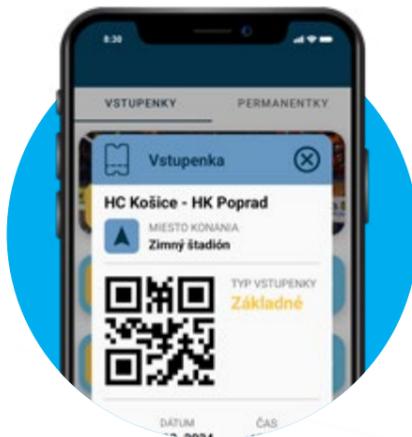


All events
in one place

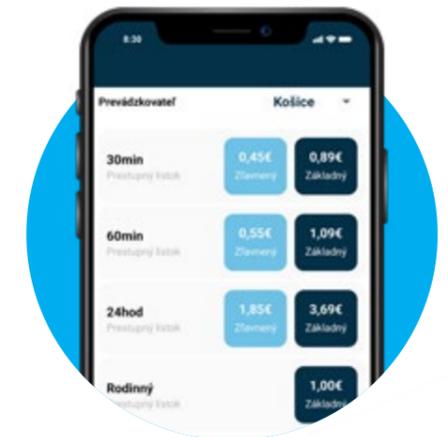


- Information from all over the city
- City benefits
- Places of interest with on-line booking
- Community system
- Events with on-line tickets
- Citizen's profile
- Sports grounds with entrances
- Packages
- Public transport with on-line purchase
- Push notifications

Your phone is your ticket
to events



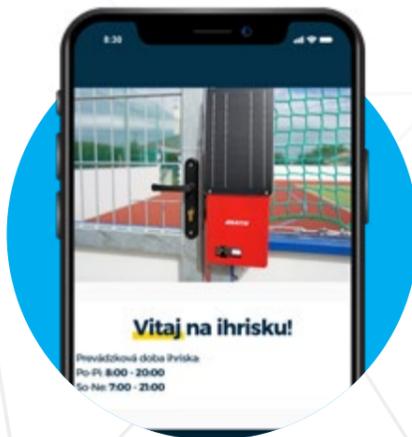
Buy a ticket
for public transport



Find a zone
and pay for parking



Open sports ground
and enjoy the movement



Be part of a community
of groups and neighbours



Targeted push notifications
for citizens



Web portal

The integrated communication solution also includes an integrated website, which clearly provides the citizen with information from the city and the office, which always reaches him in 3 clicks to the desired life situation. At the same time, they can also find a citizen's account, submit electronic forms or report a suggestion for improvement. The portal consists of 21 modules, with all data structured and linked for a maximum ease of user experience.



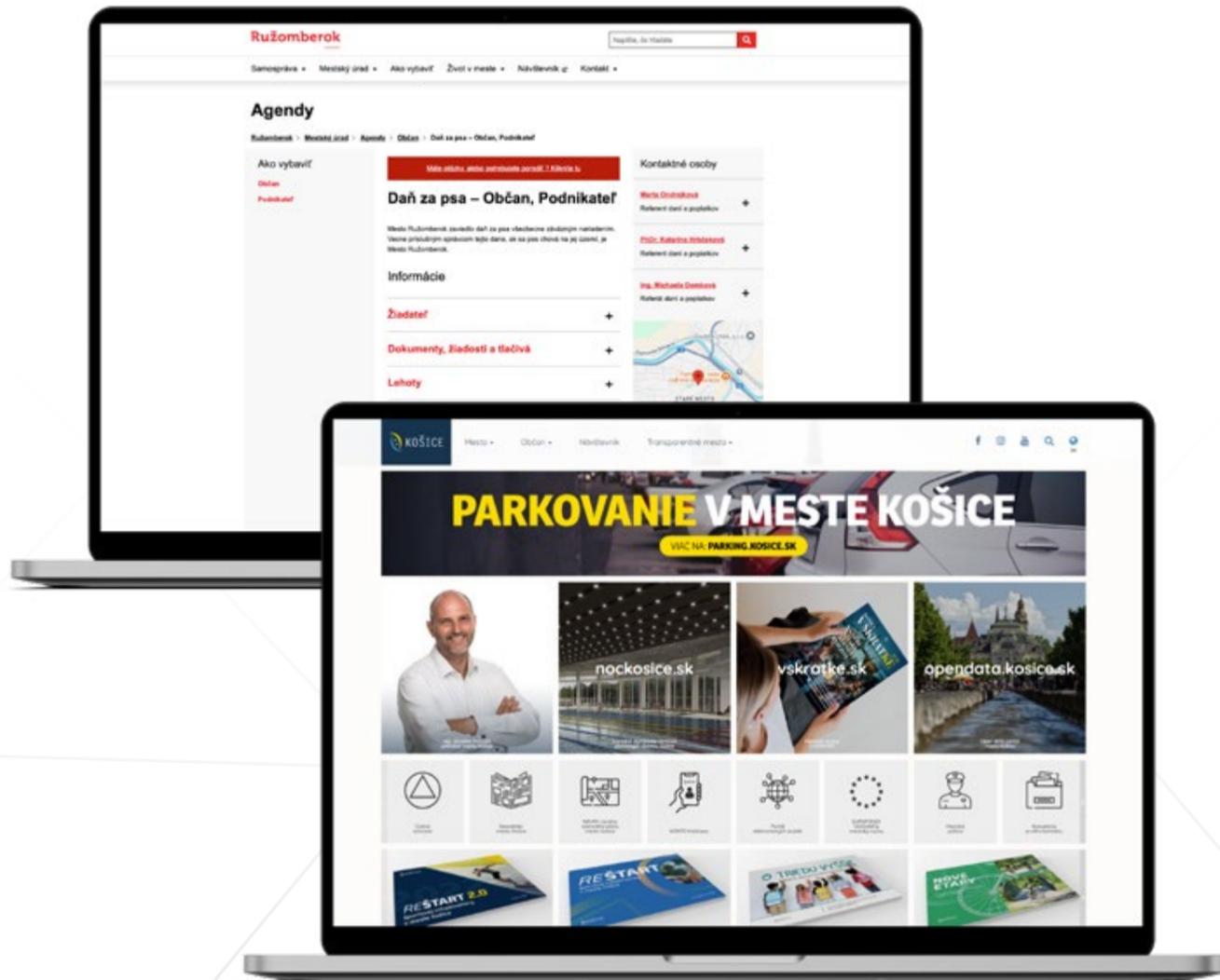
Clear information for the citizen



Integrated e-forms



Citizen's account



Information panels

Modern information panels offer flexible and dynamic display of important information anywhere in the city. Thanks to on-line communication and integration with the GDS system, it is possible to update the displayed data in real time according to current needs. Citizens can use the panels to find official announcements, information about events, find a connection or other useful data. The information panel is available in both touch and non-touch versions and can be placed both indoors and outdoors.



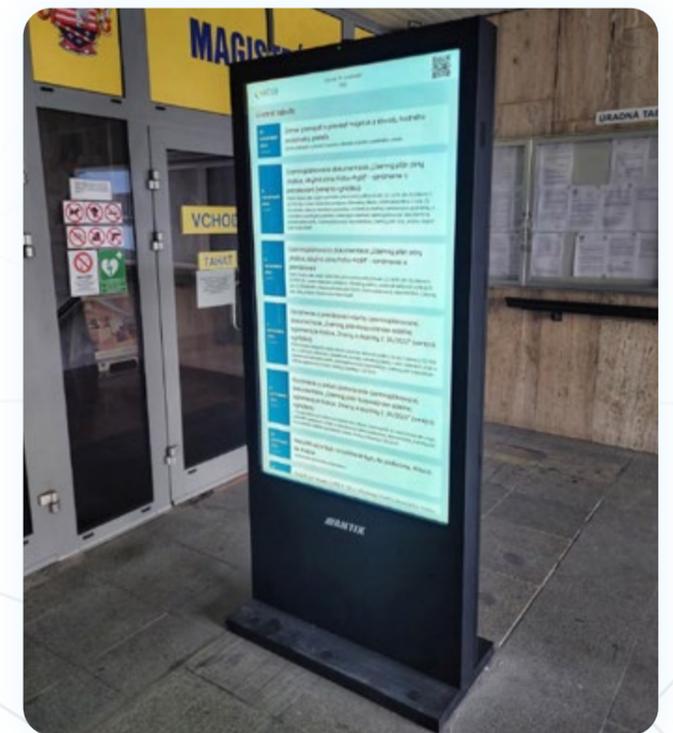
Both exterior and interior



Both touch and non-touch solutions

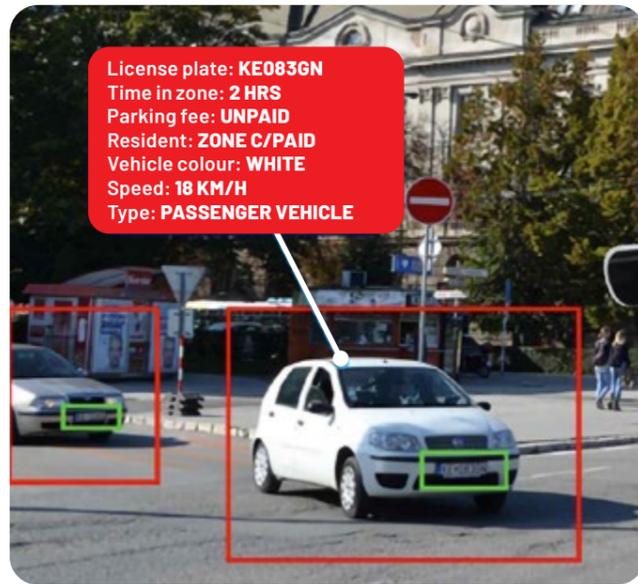


Central control using software



Dynamic transport

Monitoring of traffic junctions with the help of a smart camera system can identify the current traffic situation and the traffic ability of the roads. Local authority receives important analytical data for further development, investment and planning. For citizens and visitors of the city, the system provides complete information about the traffic situation in the city via a mobile application and information boards in real time.



Traffic intensity analysis



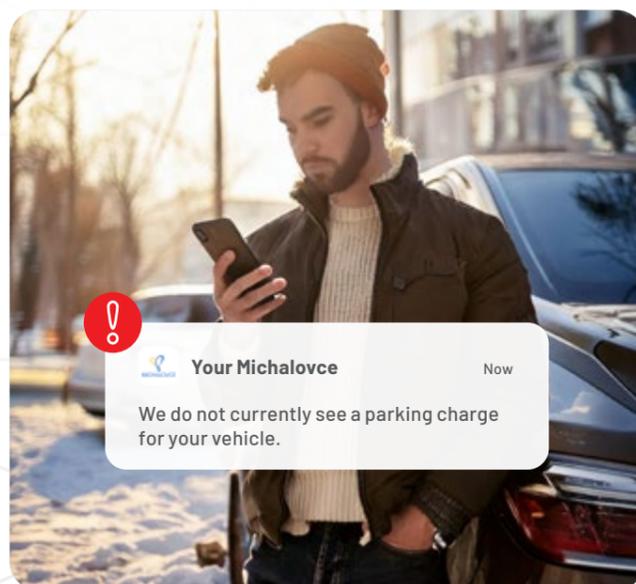
Real-time control and reporting



Payment control in parking zones



Security in case of theft



Static transport

Parking sensors provide accurate data on available parking spaces or the presence of a vehicle in a no-parking zone. The city has statistics on parking space utilization or occupancy of a no-parking zone, which can be addressed immediately by dispatching a patrol to the location. Citizens get information about available parking spaces via a mobile application or real-time info boards.



Parking space analysis



Free parking spaces information



Space availability monitoring



Illegal parking warnings



City parking system

The parking solution increases safety, improves parking management and contributes to more efficient urban mobility management. We bring a comprehensive solution for parking system management and payments in the city.



PARKING METER

The modern payment machine allows convenient payment of parking fees or fines via cash, credit card, mobile applications or contactless methods. We offer the solution with keypad or touch display.



PULL-OUT PARKING BOLLARDS

A smart solution for controlling entrances to restricted areas and protecting premises. The bollards are automatically controlled by a license plate reading camera, remote control, UHF technology or smart system, allowing efficient access control and increased security in sensitive locations.



RAMP SYSTEMS WITH TERMINAL

Automated system for controlled entry and exit from the car park, which ensures smooth traffic flow and improved safety. Entry authorisation is verified via a terminal, license plate reader camera, UHF technology or a central parking system, eliminating the need for manual operation.

Traffic information panels

They are used to display any information in different combinations according to the setting or actual need within static and dynamic traffic.



Traffic regulation



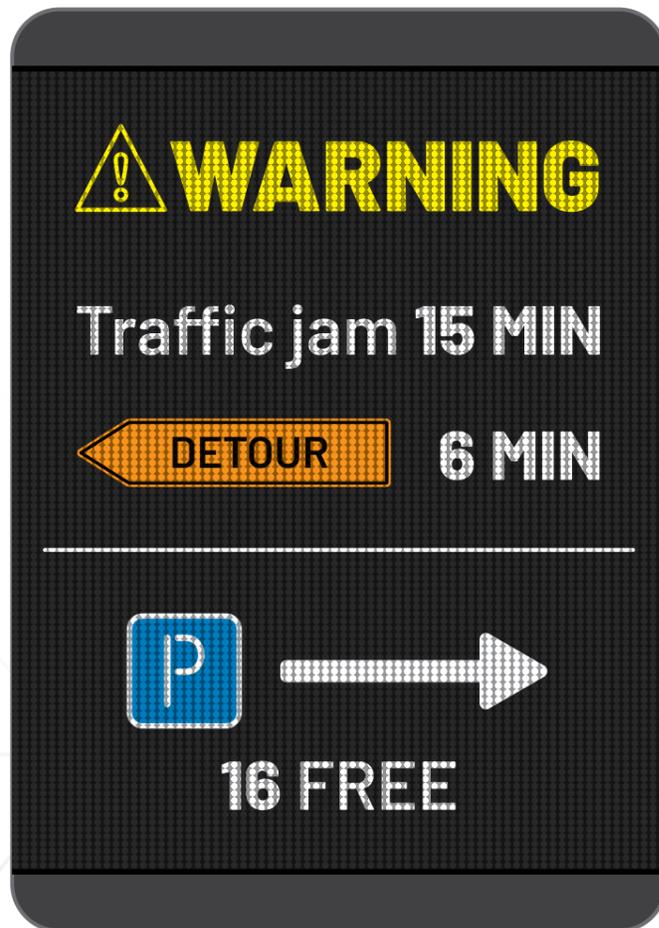
Texts and visuals as required



Free parking spaces



Colour display



Information panels for the bus stops

Modern information panels increase passenger comfort by providing real-time information about the arrival of connections and current traffic events. The solution is centrally controlled remotely, and is equipped with an integrated camera and loudspeaker. Power supply is possible via mains electricity, public lighting or a photovoltaic panel in combination with a battery.



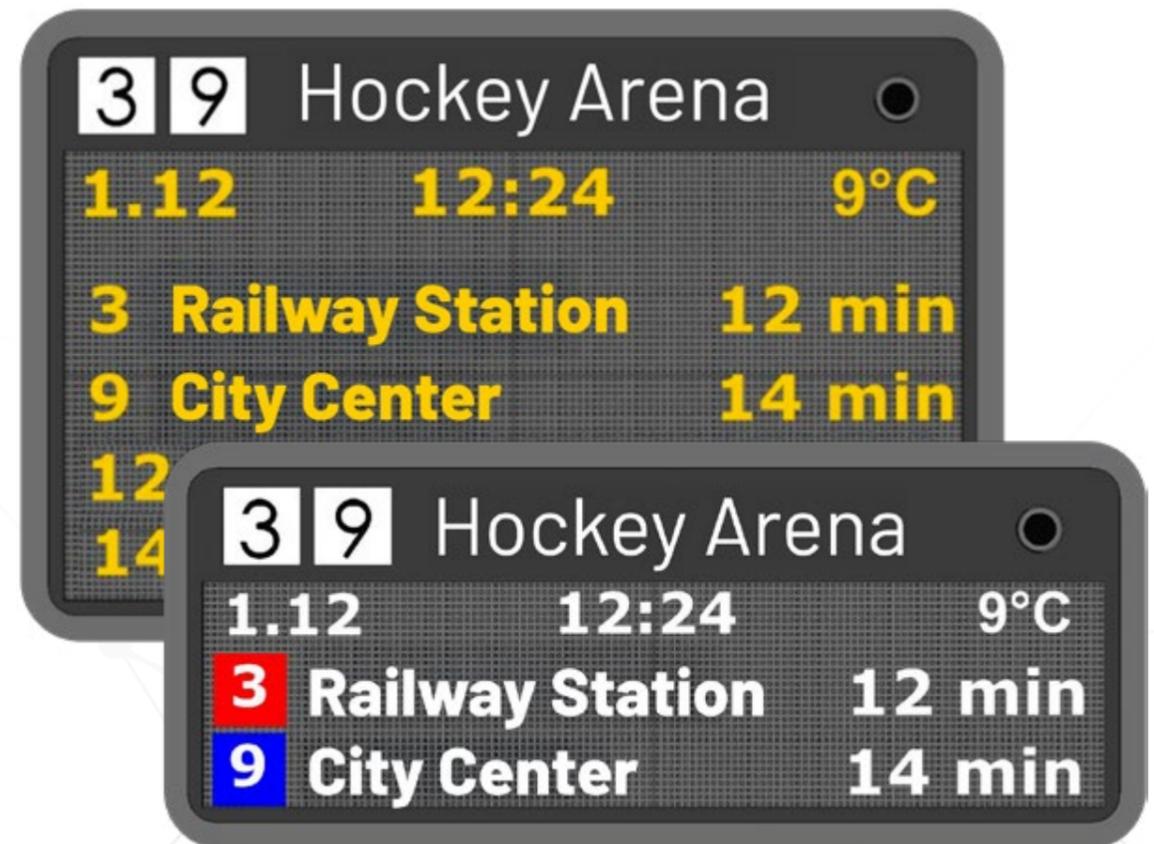
Clear and legible display



Integrated smart elements



Energy flexibility



Smart bus stops

The modular smart bus stop offers a flexible solution for modern cities with the ability to adapt to their individual needs. The individual elements can be assembled like a jigsaw puzzle to create a fully integrated system that ensures comfort, safety and efficient transport. The whole solution promotes green mobility and contributes to improving urban infrastructure.

 **Energy independence**

 **Safety and surveillance**

 **Smart information**

 **Comfort and accessibility**

 **Last mile solution support**

 **Modularity and scalability**



Shared transport

Shared facilities will be adapted to the visual identity of your city, making them an effective marketing tool on the streets. The solution is fully integrated with the GDS platform, allowing citizens to easily find, activate and pay for the devices via the city's mobile application



Business fleet

Create your own shared transport for your team and ensure easy and fast movement within the city. Your business fleet, tailored to the city's design, will allow employees to travel in comfort. After each use, simply plug the vehicle into the charging station and prepare it for the next journey.



 **Fast transfer around the city**

 **Low operating costs**

 **Seamless parking**



Smart municipal police

The municipal police will be fast, will easily reach every alley and will take care of the environment. Thanks to a replaceable battery that can be swapped out in seconds, this solution has a range of up to 240 km.

 **Adaptive LED light**

 **Police beacon and megaphone**

 **Easy battery replacement**

 **Fully hydraulic brakes**

 **Side equipment box**

 **Range up to 240 km**



DC fast charging station

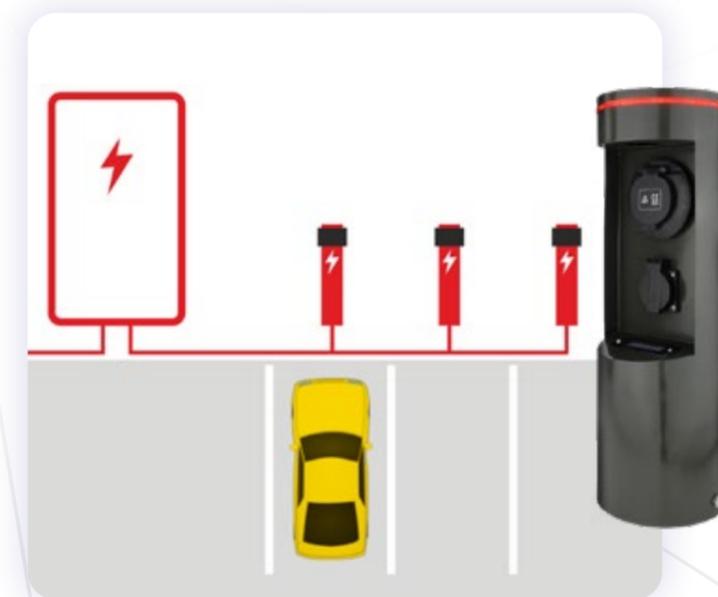
The DC fast charging station is an advanced solution for charging electric vehicles with high performance and efficiency that meets the latest industry standards. The solution adapts to the design of the municipality and supports different payment methods.

-  Output up to 120 kW
-  Highly resistant design
-  Easy payment for the service



Residential charging hub

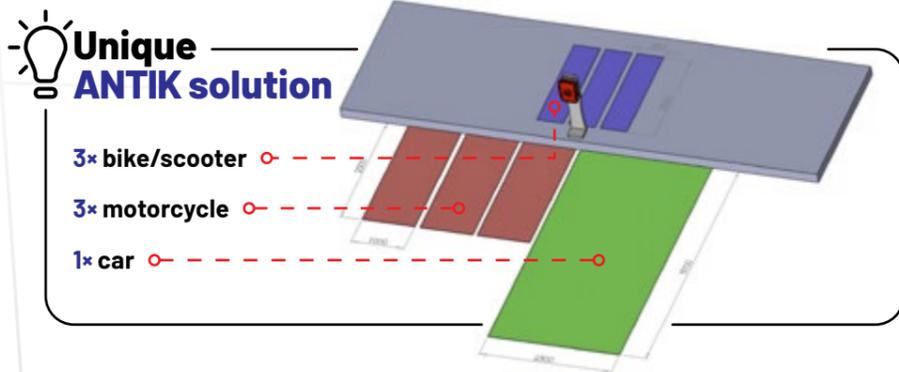
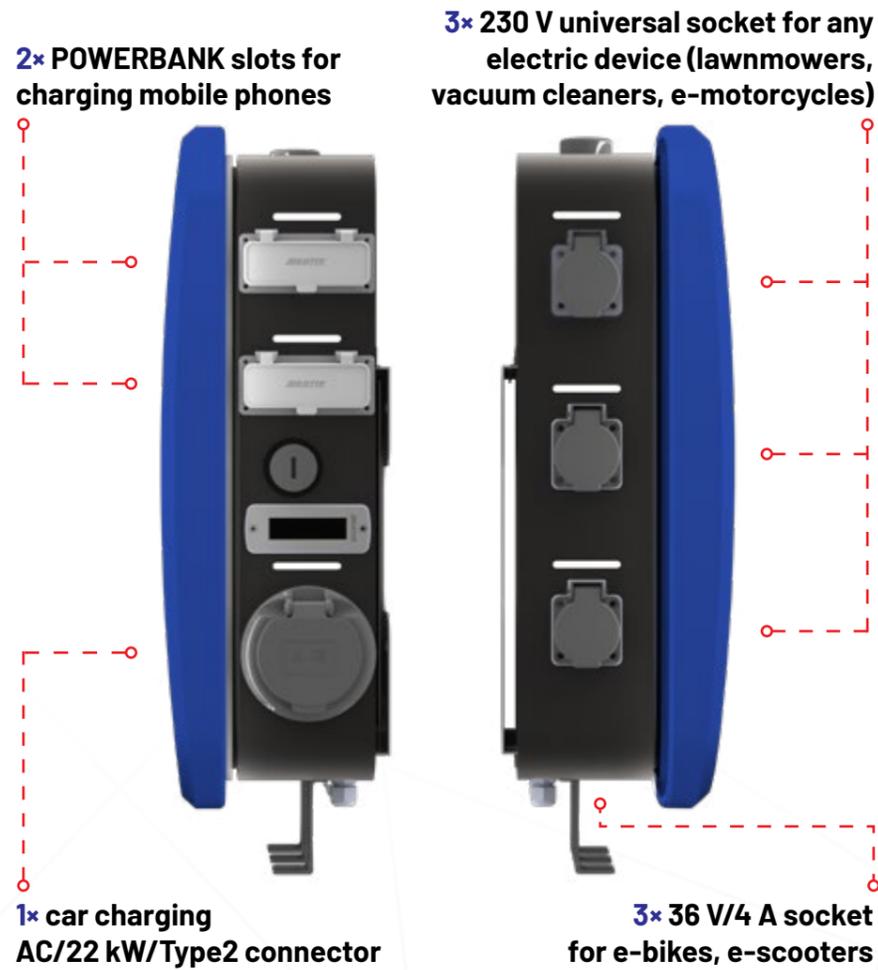
Charging electrical vehicles in housing estates requires a specific approach, as conventional AC and DC solutions are not ideal for this type of location. Residents prefer charging close to their home, and are happy with slower charging overnight when the car is parked. The entire system is controlled by a smart balancing system that intelligently communicates with the connected vehicles and optimises charging to efficiently charge all electric vehicles during the night.



-  Dynamic energy adaptation
-  Power up to 7.2 kW, connector for car and 230 V
-  Easily expandable as required

AC Wallbox 360°

The solution looks at the space in its entirety around it and serves as a public charging point. We are thinking about the future and therefore support the charging of different types of devices. It adapts to the design of the municipality and allows different payment methods.



AC Dual Wallbox

The Dual Wallbox is designed exclusively for charging two electric vehicles using a Type2 connector with a power output of up to 22 kW. The solution adapts to the design of the municipality and supports different payment methods.



Charging using solar energy

PHOTOVOLTAIC SYSTEM FOR PARKING AREAS

-  Utilization of AC, DC, Hub solutions
-  Ecological solutions for the future
-  The panels serve as a shelter

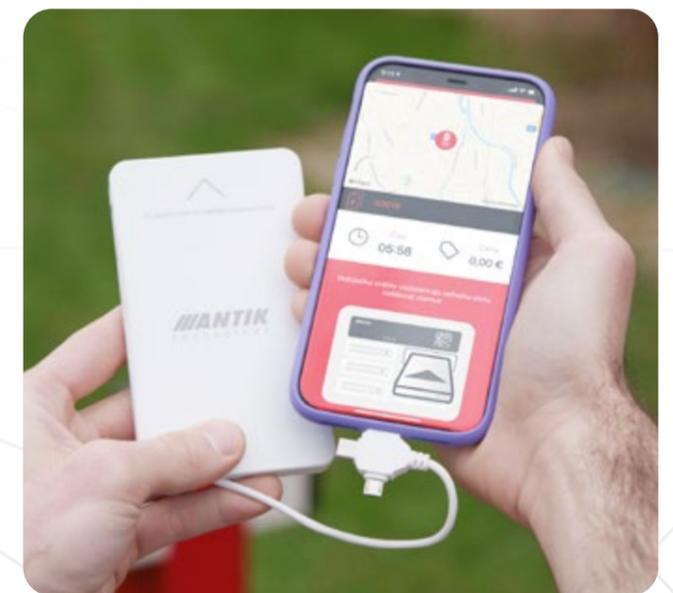


PHOTOVOLTAIC CHARGING POINT WITH WALLBOX 360°

-  Efficient transport charging
-  Without building permit
-  Installation within 3 hours

Powerbank charging box

A charging box with a six-battery powerbank tray allows you to charge popular devices, such as iOS and Android phones and tablets, as well as other devices such as laptops and headphones. A citizen can borrow a powerbank in one place and return it to any other charging box in the city.



Outdoor entrance system for sports venues

Increase safety and control access to sports venues and playgrounds in your city. The fully autonomous solution with solar panel power and wireless communication over a 5G network ensures reliable operation without the need for extensive infrastructure.



-  Resistant antivandal design
-  Fully autonomous operation
-  Opening via the city application

Interior access system for gyms and rooms

The smart access system allows secure entry based on pre-set permissions or approved reservations. It is an ideal solution for gyms and community spaces.



-  Clear control of inputs
-  Different identification options
-  Simple and intuitive operation

Turnstile system

A modern turnstile system ensures efficient access control to events, stadiums, swimming pools and other public places. Fully automated passage of people increases security and minimises the need for manual checks.



-  Automated and secure entrances
-  Different variants of turnstiles
-  Possibility to integrate handheld scanners

Service system

Universal service system for swimming pools, cinemas, stadiums, theatres and other facilities that do not have their own system. It enables complete management of products, services, packages and zones, as well as centralized management of ticket sales, reservations and their verification. Provides the ability to integrate with any cash register system or POS system.



-  Ideal solution for different types of equipment
-  Comprehensive off-line and on-line sales management
-  Connection to cash register and POS systems

Smart waste stand

The waste receptacle stand is a modern solution for controlled and efficient municipal waste management. Allows access only to authorised users, preventing unauthorised use. The solution is modular - the stand can be customised with various smart components to achieve fully autonomous operation. It is made of high quality materials such as aluminium, steel or wood.

-  Improving the cleanliness of public areas
-  Restriction of unauthorised access
-  Modular solution
-  Monitoring for municipal administration
-  Paying for waste via mobile application



Made of sheet metal + wood-plastic strips



Made of sheet steel with burnt motif as defined by the municipality



Made of aluminium slats

Unique ANTİK solution

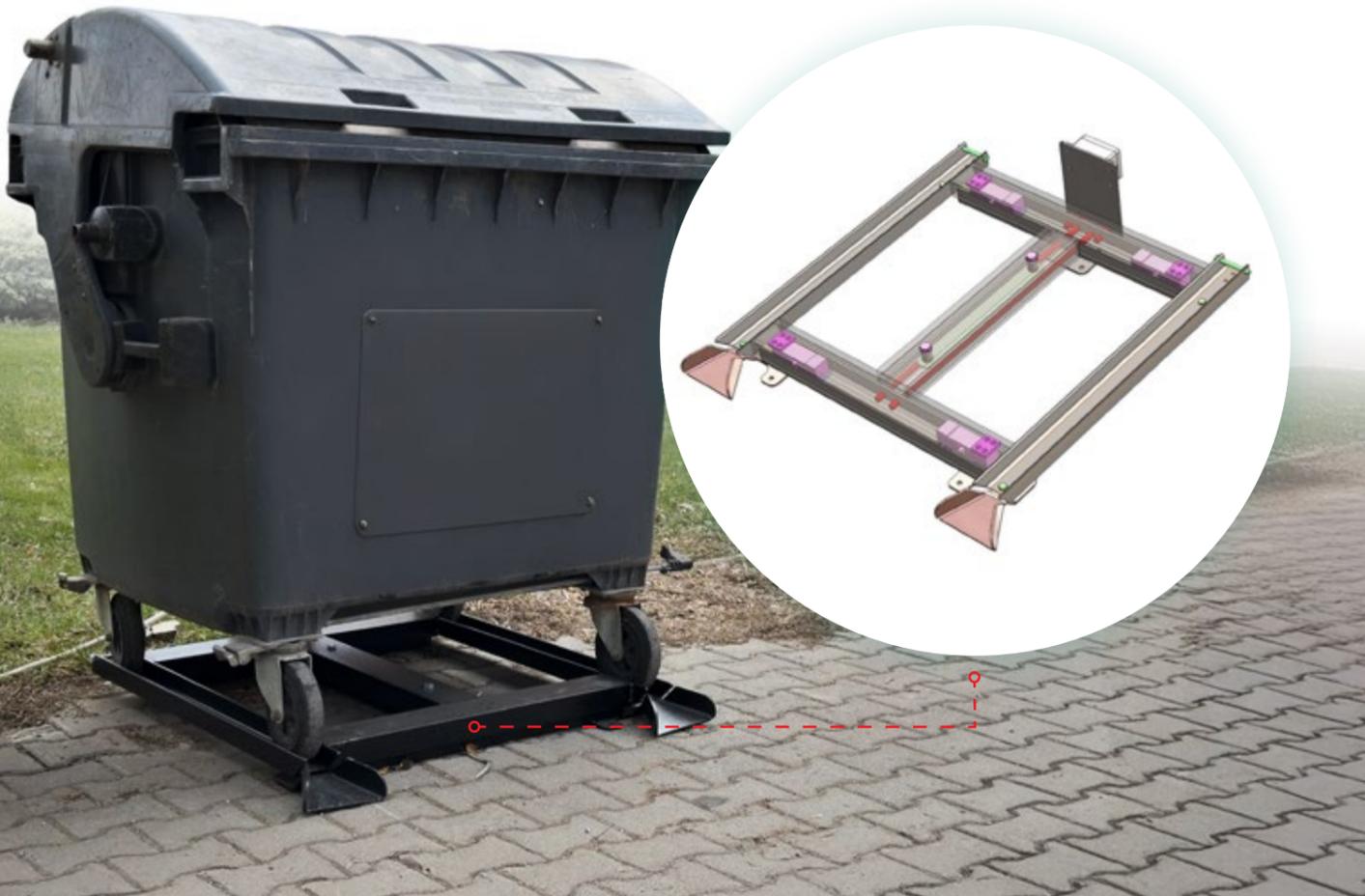
The solar panels serve as a roof and also produce energy that can be used not only to power the stand, but also through a hybrid inverter, battery and smart energy distribution module to power public lighting, other buildings, a virtual battery or urban energy storage, or sell it back to the electric grid. The stands thus become an active distribution electric power plant.



Weighing waste on housing estates

Smart weighing system allows accurate measurement of the amount of waste thrown away with data assignment to specific users. This solution promotes fair waste charges and motivates citizens to separate their waste. The weighing mechanism is integrated to the container stand, while the system automatically records and sends the data to the central server.

- Personalised waste weighing
- Automated data recording
- Resistant solution



Container fullness sensor

This system uses battery-powered ultrasonic sensors to measure the filling of the container, transmitting the data over the LoRaWAN network. The system is independent of the technical stand equipment. Sensor sends data on the percentage fullness of the container at set intervals (normally 2 times a day) during its 10-year lifetime. The citizen can thus have an overview of the current status together with information on the next waste disposal date. Local authorities can more efficiently set the collection intervals and reduce the costs of inefficient collection of empty bins.



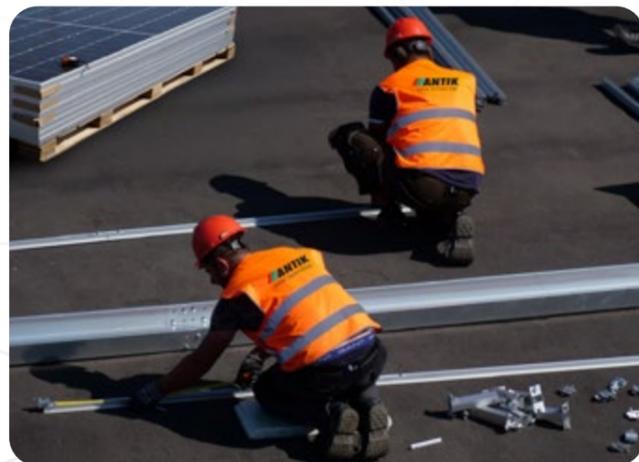
Photovoltaic systems

Photovoltaic system for cities provides a sustainable and efficient source of energy for buildings, public lighting, urban infrastructure and smart solutions. Thanks to the solar panels located on buildings, bus stops, parking shelters or waste receptacles, it enables cities to significantly reduce energy costs and their ecological footprint. Energy is used as needed in real time and excess energy can be put into the city's community energy system.

-  **Energy self-sufficiency**
-  **Cost saving**
-  **Smart integration**

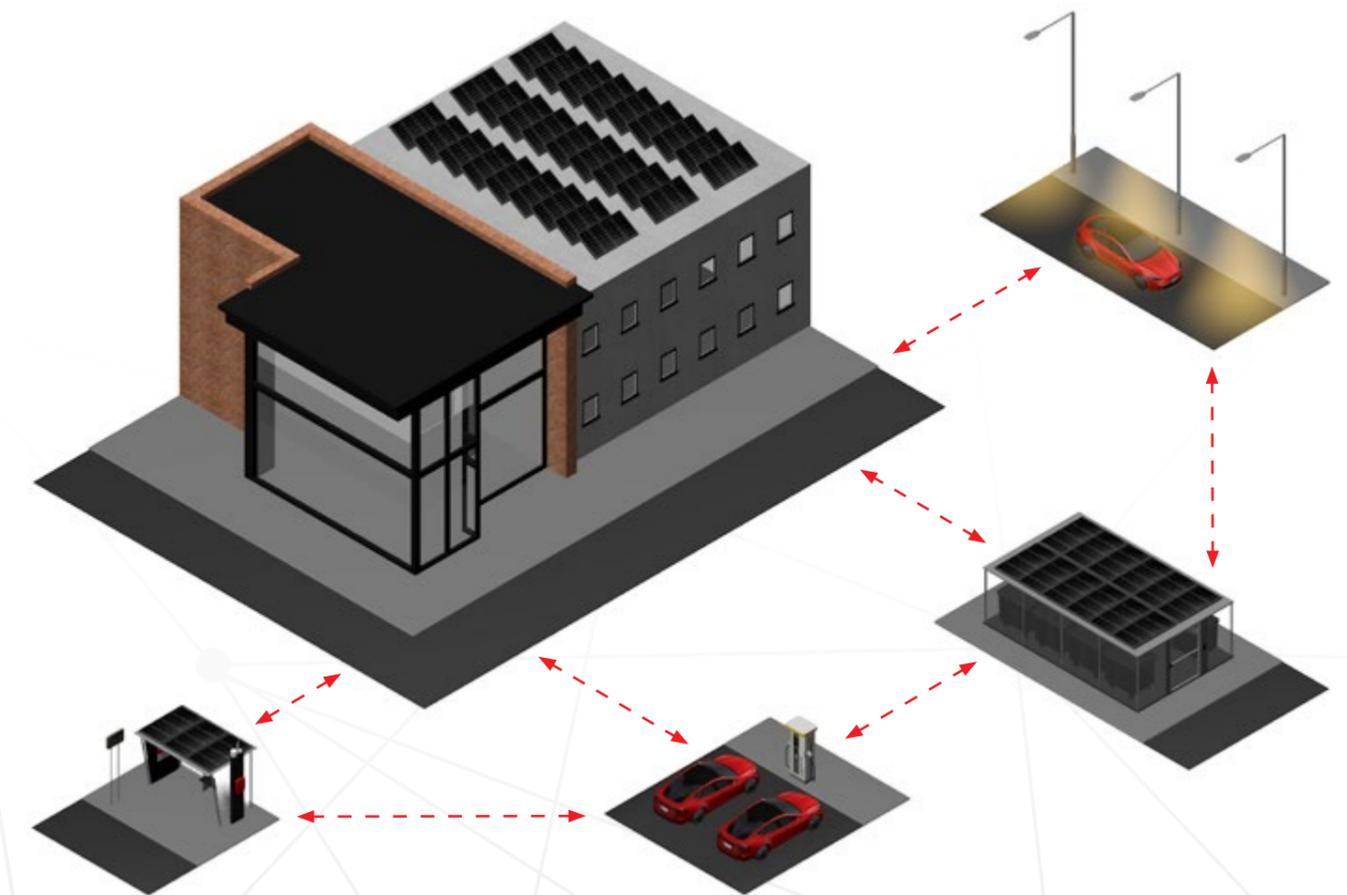


- Solution** ▶
- Documentation** ▶
- Implementation** ▶
- Care**



Community energy for the city

Community energy offers cities a decentralised and intelligent system of generation, distribution and energy consumption that maximizes the use of local renewable resources. Through photovoltaic panels placed on municipal buildings, bus stops, waste stands or other accessible areas, the city can create its own power plant. The energy produced is then used to power municipal buildings according to their actual need, public lighting, charging stations or other infrastructure elements. The system is fully integrated with the city's energy management and GDS platform, providing detailed information and enabling smart decision-making on energy storage and flow.



Photovoltaic water heating for rental apartments

Urban rental apartments can significantly reduce water heating costs thanks to a photovoltaic system that uses solar energy to heat domestic water. This system ensures an environmentally friendly, energy-efficient and energy-saving operation, reducing the financial burden on tenants and the city.

The photovoltaic panels convert the solar energy into electricity, while the control and communication module manages the entire system as a technological unit. This module also controls valves, monitors water meter readings and controls the drive of the circulation pumps.

- 
Apartment costs of 1,000 €
- 
Annual savings up to 50%
- 
Quick payback solution



Remote energy measurement

The smart remote energy metering system enables cities and organisations to effectively monitor electricity, water, gas and heat consumption in real time.

Thanks to automated data collection, it provides accurate consumption information, identifies leaks and optimises energy management.

The system eliminates the need for manual readings, reducing administration costs and minimizing billing errors. In addition, integration with smart city platforms enables advanced analysis and consumption forecasting for more efficient management of energy resources.



- 
Precise and automated measurement
- 
Battery life up to 10 years
- 
Data every 15 minutes



Smart interior energy components

Modern buildings require efficient and intelligent solutions that optimise energy consumption, increase occupant comfort and contribute to a healthier indoor environment. Smart sensors and automated systems allow you to monitor air quality, regulate temperature and minimize energy losses, thereby reducing operating costs and promoting sustainability.



AIR QUALITY SENSOR

The sensor monitors indoor air quality, measuring CO₂, TVOC, temperature and humidity, sending the data to the control software for evaluation. It alerts users acoustically and visually if limit values are exceeded, helping to improve concentration and the health of people in the room.



THERMOSTATIC HEAD

The solution enables smart temperature control based on remote settings or automatic scenarios. Helps optimise energy consumption by reducing temperature in unused rooms, saving heating costs.



DOOR AND WINDOW SENSOR

Once the solution is implemented, the system will automatically switch off the heating when a window is opened, preventing unnecessary heat loss and optimising energy efficiency in buildings.

Smart camera systems

 Records from cameras

 Notices of Infringement

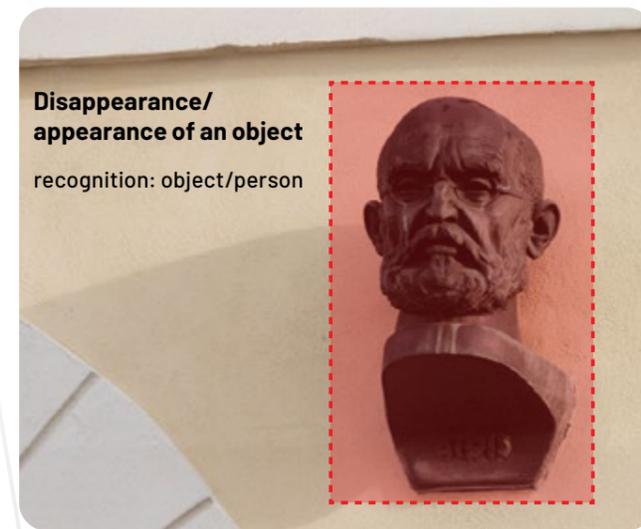
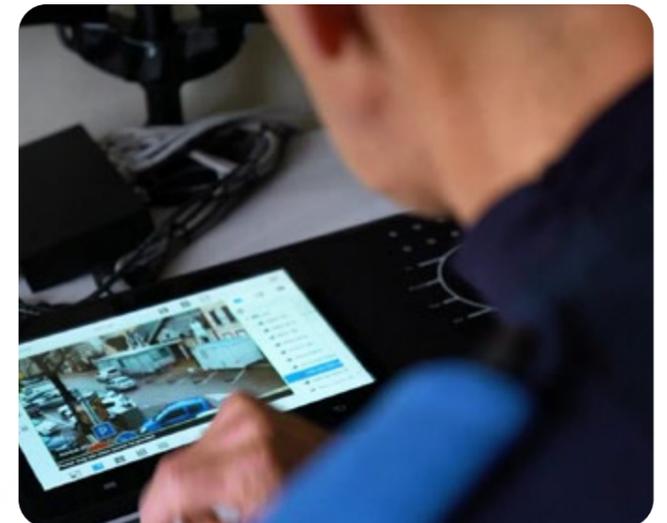
 Face recognition

 Intelligent conflict recognition system

 Counting people, cyclists, cars

 Monitoring free parking spaces

 Analysis of the vehicle registration number



Public LED lighting



Energy savings of up to 60 - 80 %



Long service life 50,000 - 100,000 hrs



Intelligent dimming and lighting fixture control



Mercury-free and low carbon footprint



More than 100 types of lighting fixtures



EFFECTIVE LIGHTING

Choosing the right lighting means reduced costs and less light pollution for the municipality or city. The phrase "correct lighting" includes, among other things, the correct intensity, brightness, colour and direction of the light.



GLARE

If there is too high brightness or contrast in the eye's field of vision for which the adaptability of the eye is "not enough", glare is produced. When glare interferes with the visibility of details, the dazzled person loses his visual comfort.

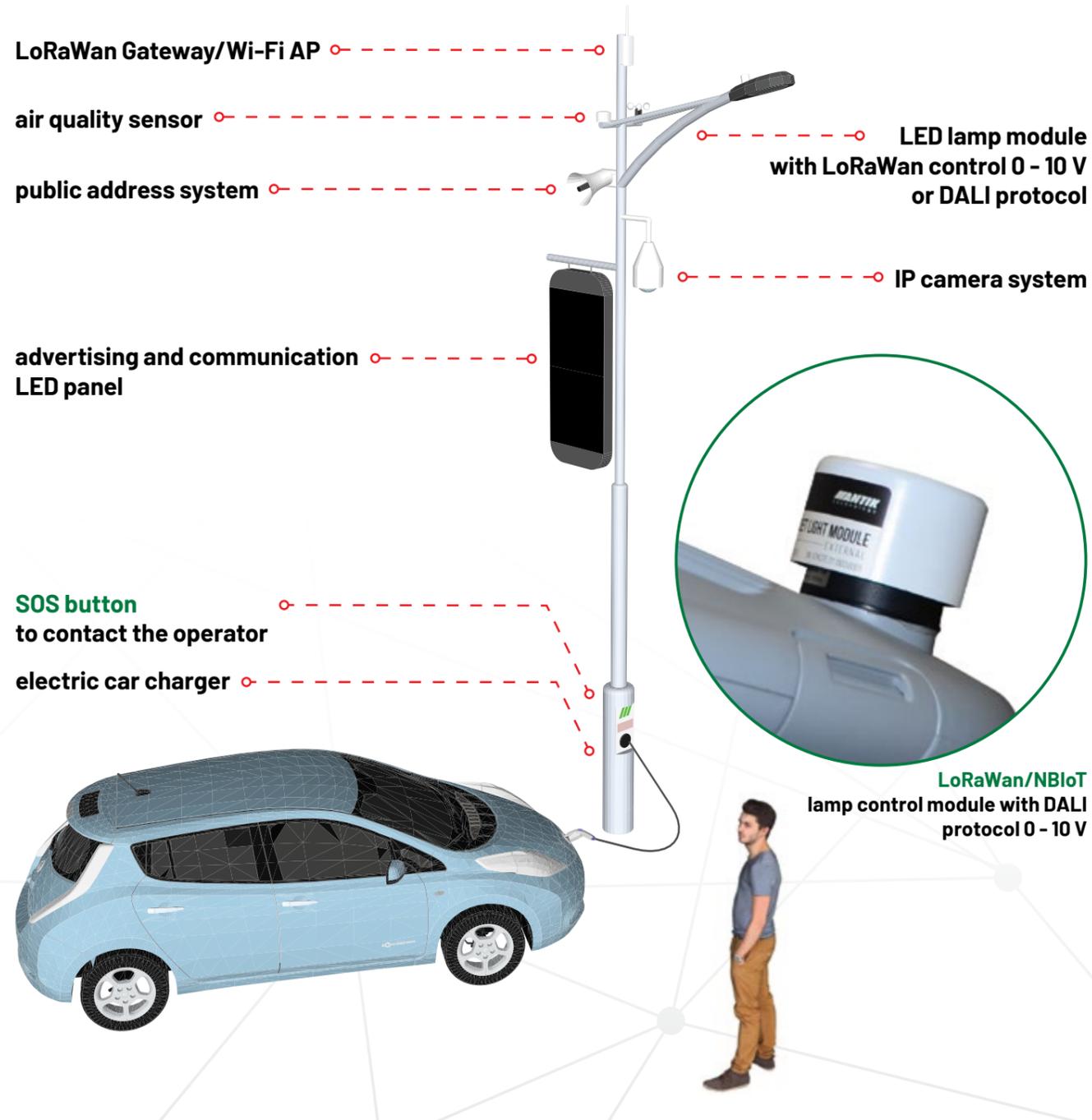


LIGHTING UNIFORMITY

The ratio of the minimum and average illumination of a surface is called the uniformity of illumination. Uniform illumination significantly affects a person's visual well-being, i.e. the state in which the visual system performs its function optimally. Blinding or uneven lighting affects the safety of people or vehicles.

Smart lighting

Until recently, public lighting was primarily a cost item in the municipal budget. Thanks to the development of technology, the city's independent power grid, along with its poles, is turning into a high-value strategic asset. Smart lighting is designed to increase efficiency and deliver energy savings.



Modular solution

Combination of elements precisely tailored. From a simple lamp to the intelligent SMART mast of the SMART CITY concept



Air quality monitoring

Smart sensors for measuring air quality can collect data on CO₂, CO, NO, NO₂, O₃, PM_{2.5}, PM₁₀, as well as temperature, cold, atmospheric pressure.

They can be used both outdoors and indoors, not only processing data, but also alerting citizens in real time to important values or changes via SMS, web portal, city mobile applications, TV or city lights.

carbon dioxide

carbon monoxide

nitrogen dioxide

nitric oxide

ozone

dust particles

dust particles

temperature

! Antik warning system Now

Automatic, early warning of the population against elevated levels of hazardous substances in the air

Water level and water quality monitoring

Our system monitors the level of rivers, groundwater, water bodies and reservoirs in the near and far surroundings of your city. When the level rises, the system automatically warns citizens in time. Water level monitoring at multiple locations provides early warning of storm surges and helps prevent flooding. The consequences of late warnings are often not only material.

alkalinity

dissolved oxygen

water turbidity

chemicals

temperature

! Antik warning system Now

Automatic, early warning of river level rise to residents.

Smart management of lawn and planting in the city



MONITORING THE MOVEMENT OF MOWERS

WARNING OF NEED FOR WATERING



ALERTING TO THE NEED FOR WATERING



Systems for sports arenas

Digital solutions are changing the way audiences perceive sport and culture. Multimedia LED screens, information panels or turnstile systems bring a higher level of comfort, safety and interaction. Dynamic content and smart control make arenas modern spaces with an exceptional experience for every visitor. Our solutions are custom-designed - with an emphasis on design, functionality and ease of integration.



MULTIMEDIA LED "CUBES"

The LED cubes provide a 360° view, ensuring that every fan in the arena has the perfect visual experience. They contribute significantly to the overall impression of spectators in sports facilities and become an integral part of the modern presentation of sport and. The solution is tailor-made - in different combinations of layers and designs according to individual requirements.

LED PERIMETER SCREENS

LED perimeter screens placed along the edges of sports grounds play a key role in enhancing the spectator experience, while also creating space for commercial opportunities for sports organisations. They offer dynamic and visually striking content throughout the event.



INFORMATION PANELS

Modern information panels offer flexible and dynamic display of important information, partners or navigation in the arena. Thanks to their easy portability, they can be used in different locations as required. On-line communication allows for instant, real-time updating of displayed content, increasing efficiency and visitor experience.



LED SCREEN WALLS AND SIDE PANELS

LED screen walls and side panels contribute significantly to the modernisation and attractiveness of sporting events. They allow flexible positioning in different areas and zones of the arena and offer a high visual standard for spectators and partners.

TURNSTILE SYSTEM

The modern turnstile system ensures efficient and safe access control to events for various groups of visitors - through tickets, season tickets or VIP entrances. Fully automated passage of people increases security, speeds up the process and minimises the need for manual checks. The solution can also be extended with a biometric facial recognition system.



Innovative solutions for modern tourist locations



FUN AND ENVIRONMENTALLY FRIENDLY TRANSPORT

Offer visitors a unique way to explore the surrounding area through environmentally friendly means of transport such as public mopeds, mountain bikes or kayaks. These options will allow them to experience unforgettable adventures on different types of terrain.

DYNAMIC INFORMATION PANELS

Every day they bring new thematic information that provides visitors with valuable content and turns every visit to the same place into a unique experience.



SMART RELAXATION PLACE

The gazebo, with its various functional features such as photovoltaics for charging bicycles, mobile devices and lighting, and a paid wood dispenser, provides the perfect combination of comfort and modern technology.



LIVE CAMERAS AND ANALYTICAL CAMERAS

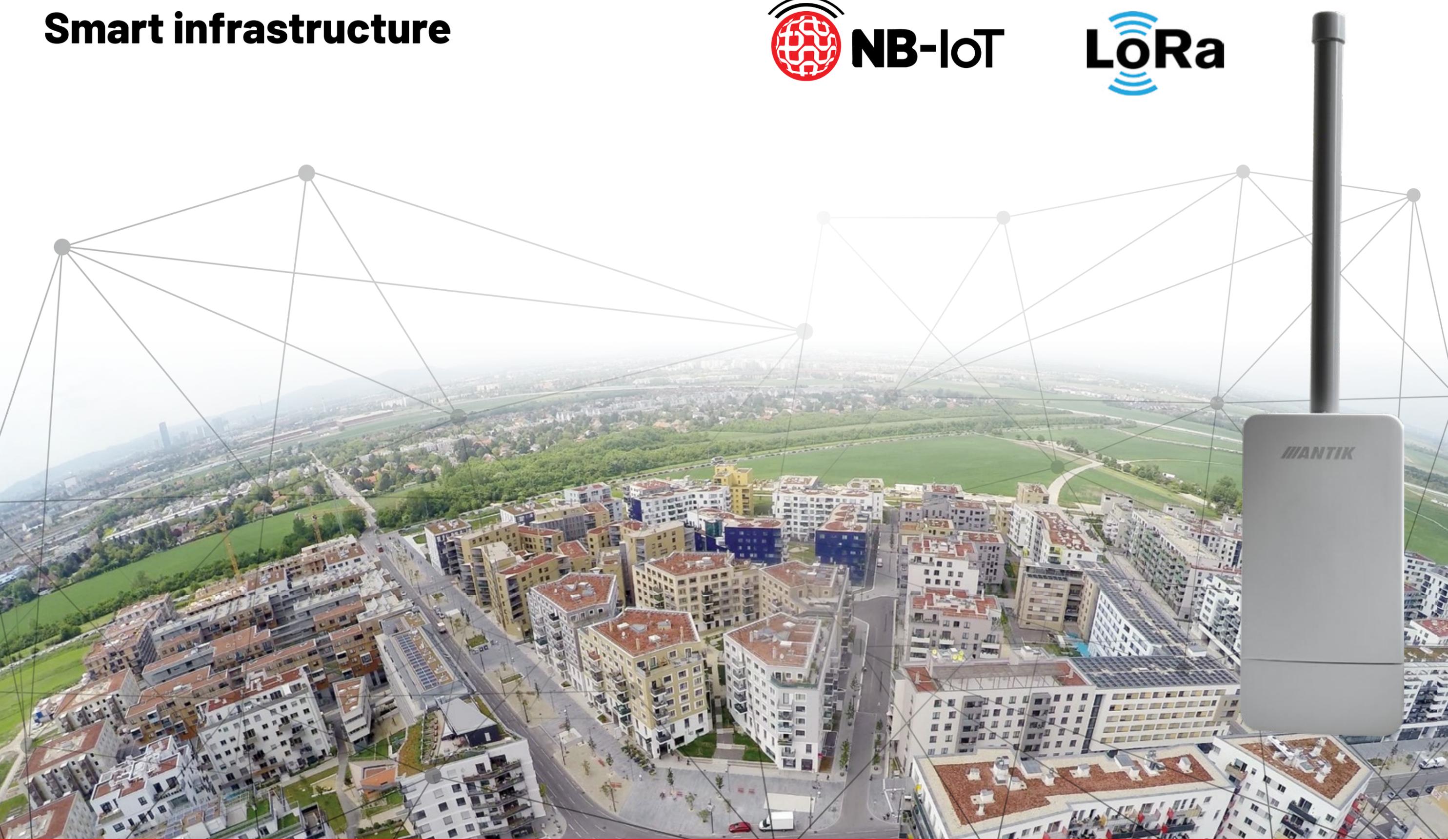
Allow visitors to follow what's happening in interesting locations in real time and plan their trip with an up-to-date visual overview. Gain important data on visitor movement and behaviour to plan and optimise your services more effectively.

WEATHER STATIONS

Provide accurate and up-to-date information on weather and air quality in the area to make visitors' stay safer and more comfortable.



Smart infrastructure

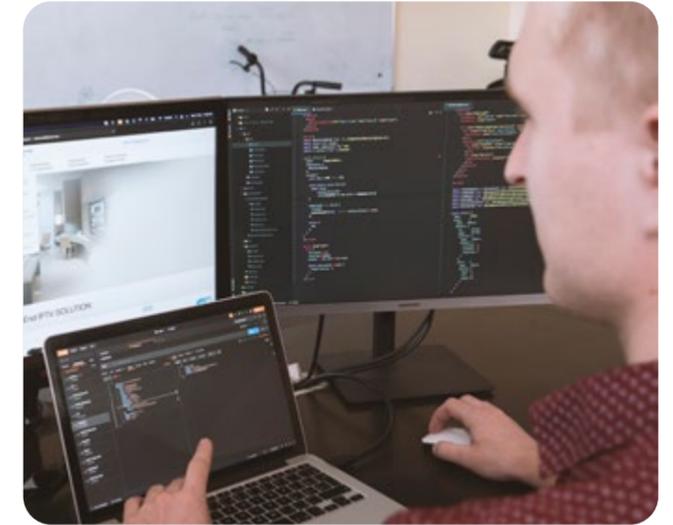


Top technology developed by Slovak engineers

ANTI K Telecom is a Slovak company with headquarters in Košice and branches all over the world. We have more than 300 employees and develop and manufacture all the components of the smart city solutions we offer, including the control software.

Thanks to our rich experience from multinational projects and many years of experience in the field of smart city, we decided to create a complete smart city system. This system can be built gradually and put together like a jigsaw puzzle.

We will prepare a tailor-made solution for you, deploy it, operate it and provide full support. We are a strong and stable partner to help you create your smart city serving the people.



AWARDS AND NOMINATIONS



Nomination for the award for 2021



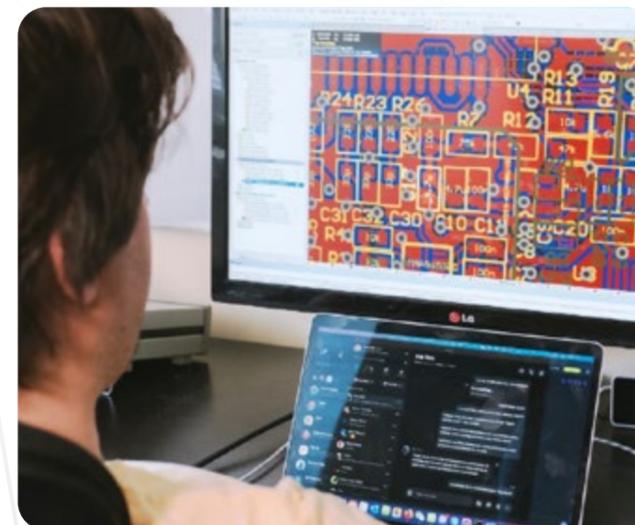
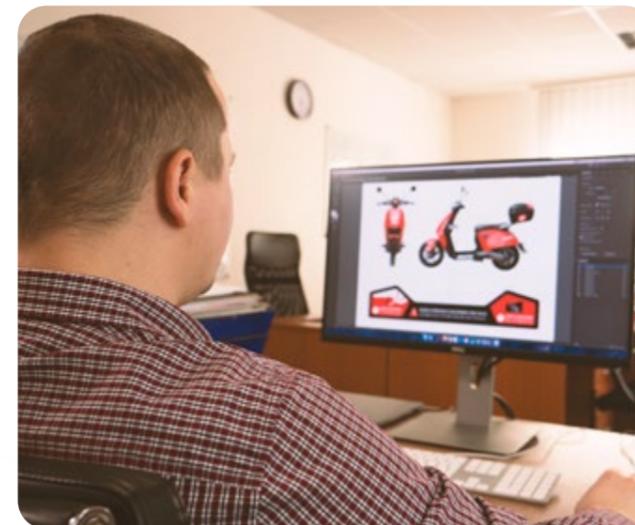
2nd position IT product for 2022



2nd position IT product for 2022



2nd position for a growing company for 2024



Projects on 6 continents

95% OF OUR SOLUTIONS ARE EXPORTED TO THE WORLD



ANTI K meets certifications



ISO 9001:2015



ISO 14001:2015



ISO 45001:2018



ISO 50001:2018

