

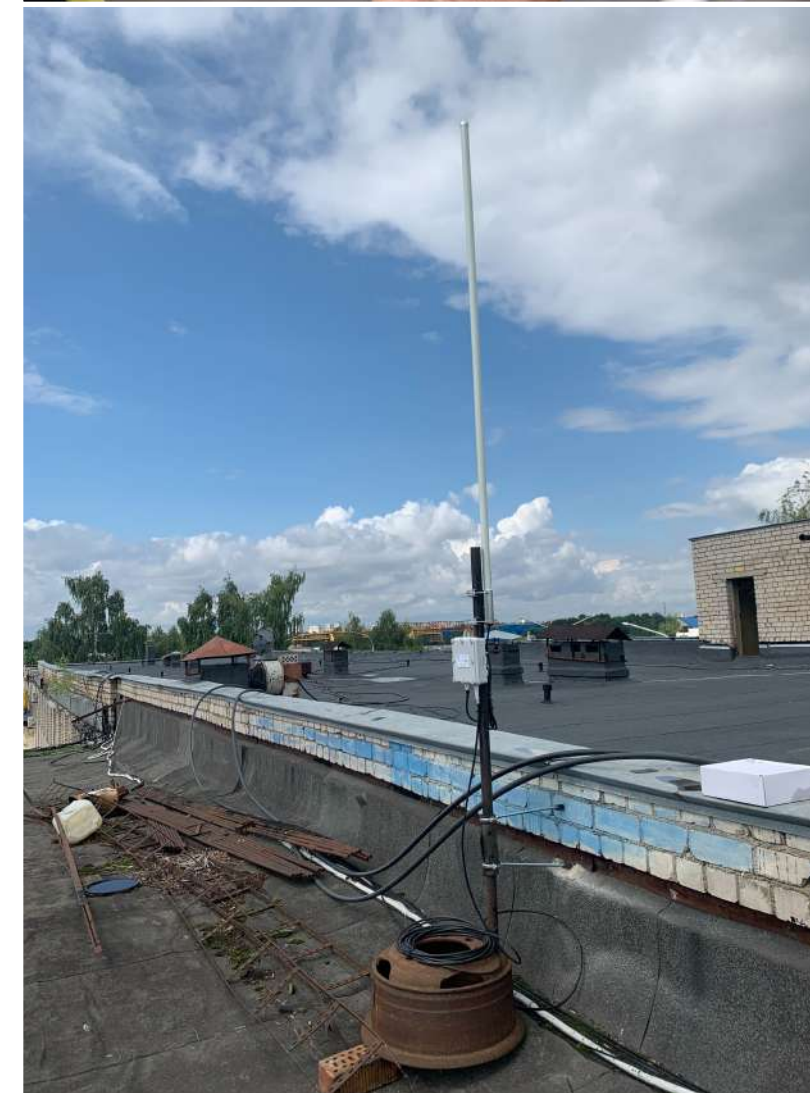
Development & Integration of IoT Ecosystems

Empowering your business with seamless IoT solutions



About Us

- Since 2018, we have been developing and integrating IoT solutions in the field of energy accounting and enterprise dispatching
- 29 Employees
- 400+ implemented projects in 73 cities and villages in Europe
- >169 000 devices connected to the IOTANS ecosystem
- An in-house developed universal IoT platform "IOTANS"
- The flagship product - Remote water metering



What Problems Do We Solve?



We create an integrated enterprise IoT ecosystem with a large number of devices of various purposes for the digitalization of internal business processes

**For companies that have a lot of non-dispatch-compatible devices, making digitalization an expensive and time-consuming process*



We reduce the cost of maintaining and developing the dispatching system available to the enterprise

**For companies that are interested in saving resources (human, production and energy resources)*



We make a seamless transition from wired to next generation wireless Industry 4.0

**For companies that use expensive and hard to maintain wired dispatch solutions*

IoT Solutions

Quality Monitoring Railway Tracks

Leak Control

Workforce Performance Monitoring System

Remote Gas Metering

Water Supply Management

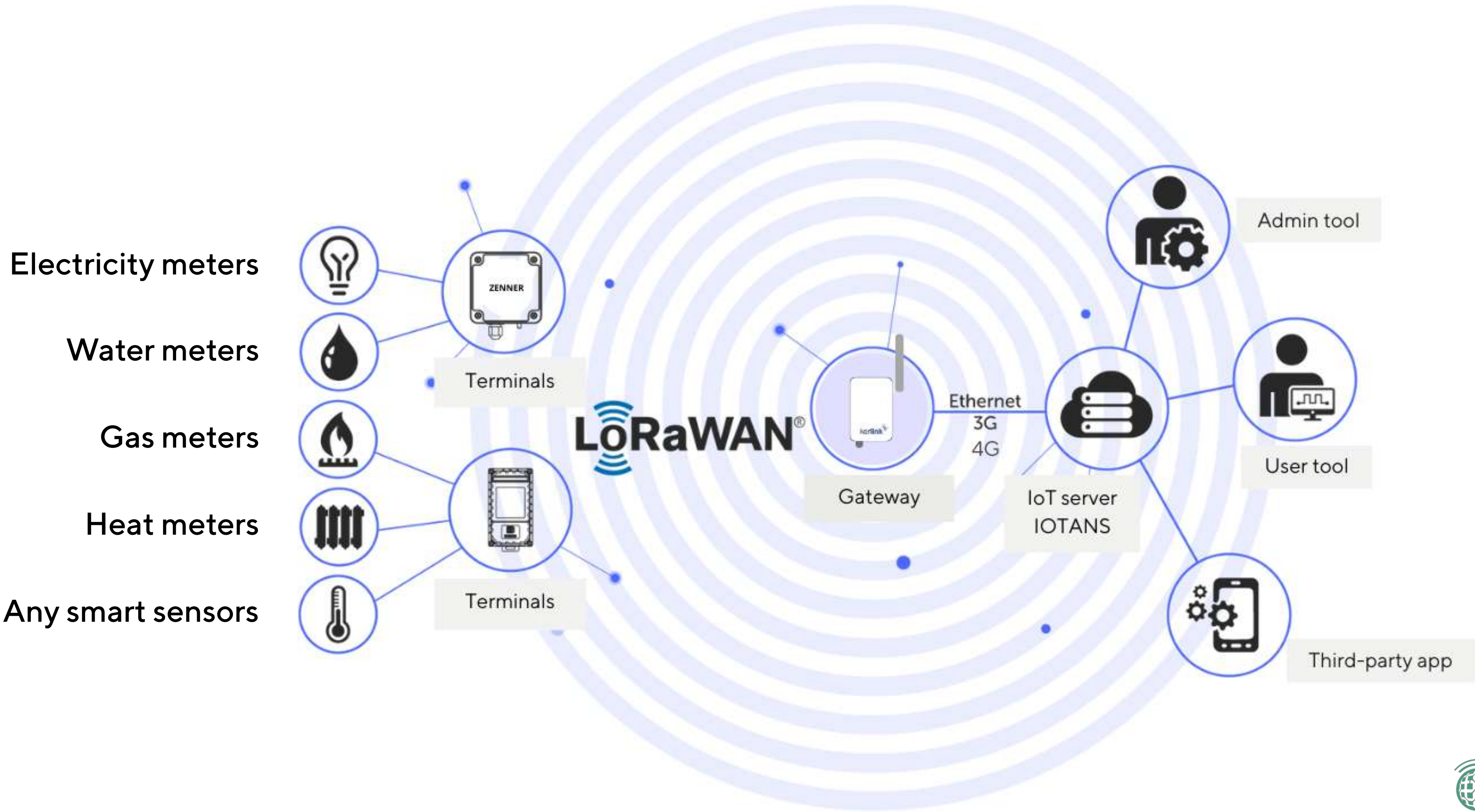
Manhole Opening/Closing Control

Monitoring Technological Parameters of Production

Smart Buildings

Dispatching Water Wells

IoT Solution Scheme

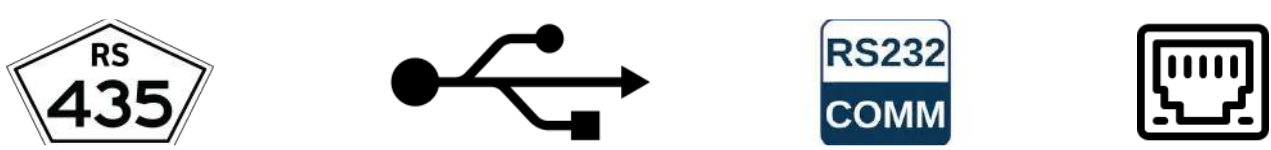


Solution Features

Combination of wireless technologies
with creating a single network of devices



Use of unified data communication devices
for devices with pulse and current output, RS485, RS232



Building turnkey resilient ecosystems
with software and technological support



With us it is fast, affordable and
easily scalable

IOTANS in Figures

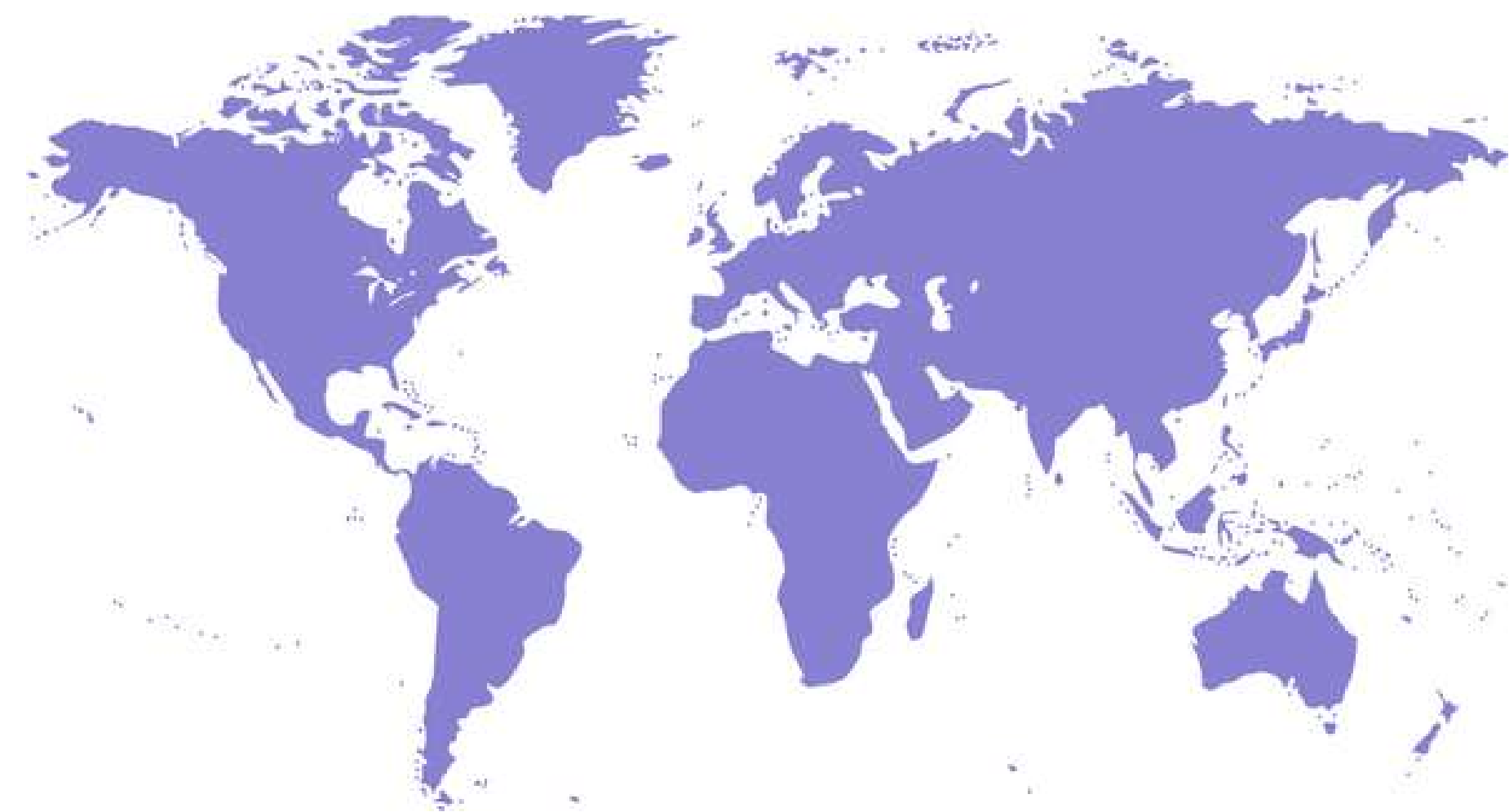
- **34** companies (utilities, manufactures, etc.) are using our solutions
- **73** cities and villages connected to IOTANS platform
- **199** gateways installed in 4 European countries
- **169 462** devices provide data daily to the end User through the IOTANS platform interface



Goals

We are expanding the network of partners – manufacturers of metering devices / smart sensors and suppliers of ready-made solutions used to measure various technological parameters.

Empower your business with easy-to-use IoT ecosystems, becoming your trusted partner and a guide to the world of digital solutions.



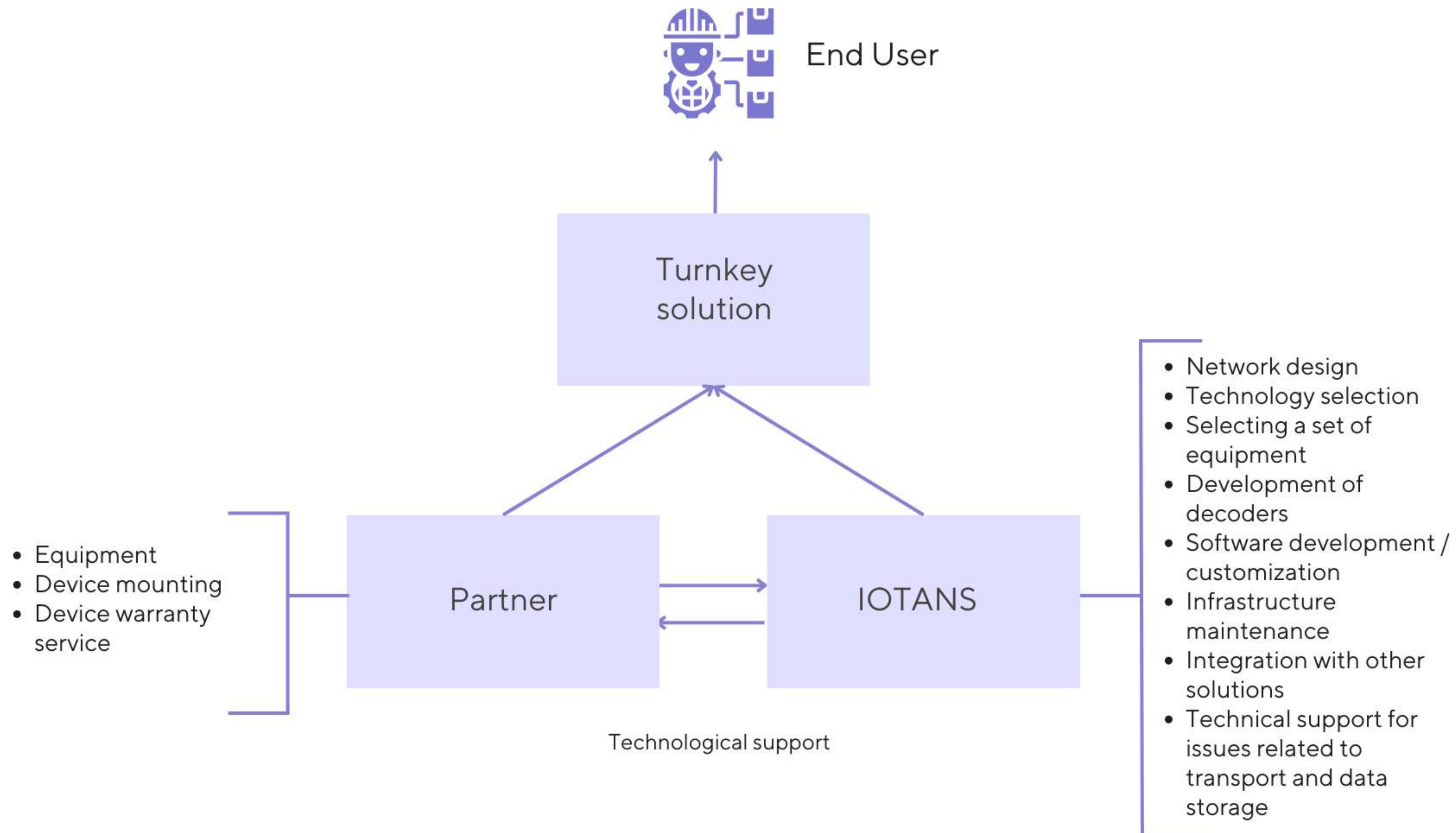
Our partners  **Minol** **ZENNER** Brunata

Spheres



Business Model Example

with manufactures



Who Are Our Partners?

01. Manufactures

of metering devices and smart sensors in the areas of:

- water supply
- heat supply
- gas supply
- electricity supply



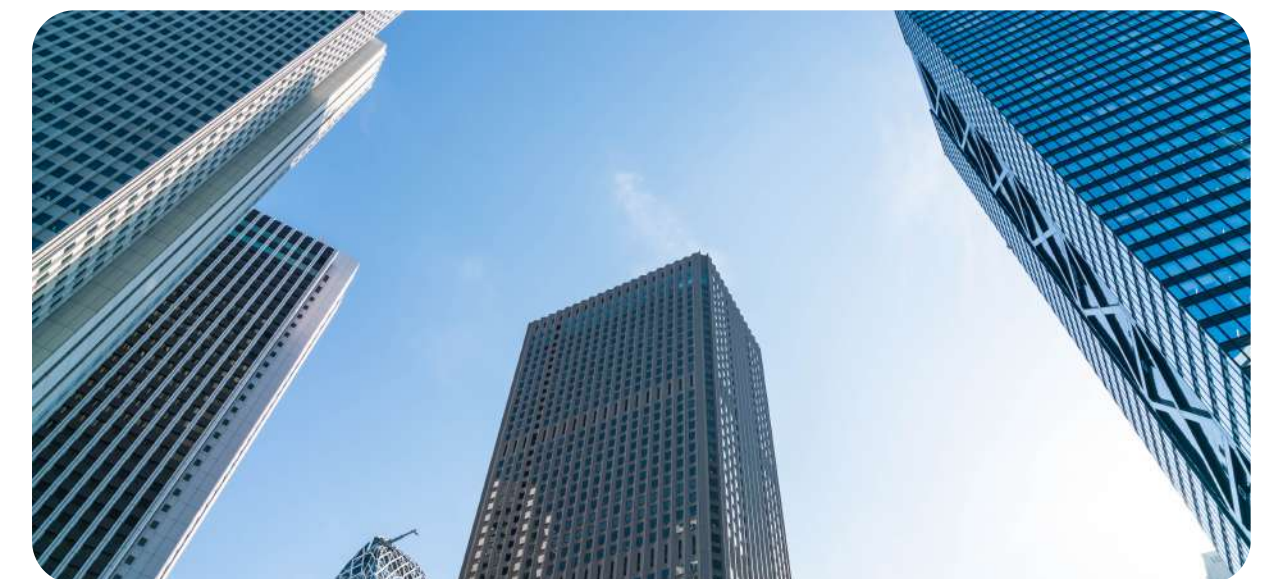
02. Integrators

offering turn-key solutions for dispatching and automation of the enterprise for end Customers



03. ?

any companies interested in expanding their capabilities using IoT technologies



What Do We Offer to Partners?

01. Combination of wireless technologies

We promote your products as part of **IoT solutions** by offering them to our customer base on the European market

02. Cost reduction

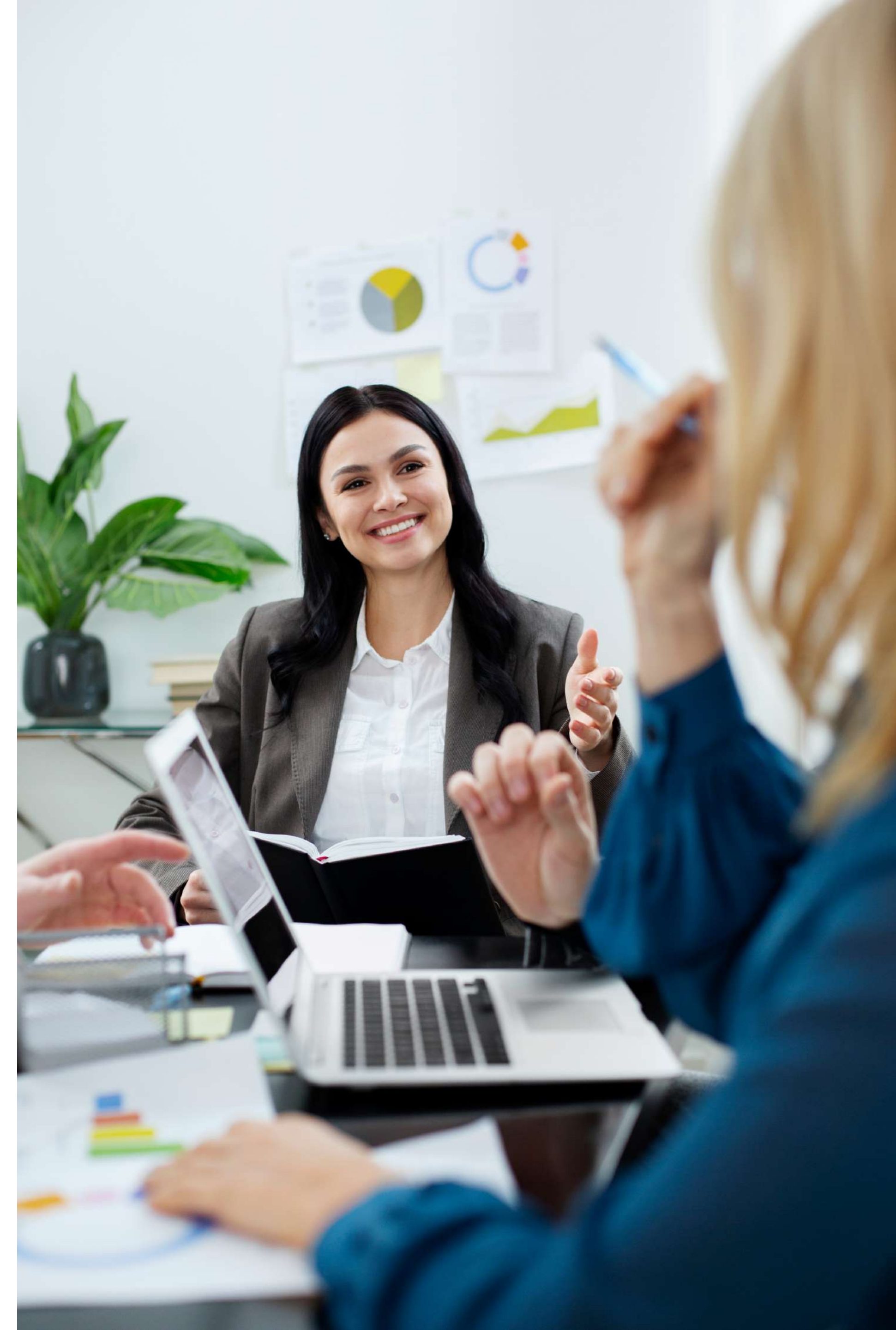
LPWAN technologies are characterized by the low cost of devices using them and easy implementation. The average time to launch a **pilot project is 3-7 days**

03. Joint entry into new markets

We provide software and technology support. We take care of building and implementing IoT ecosystems with the subsequent maintenance and development of a devices network

04. Increasing competitive advantage

By working with different data transfer technologies, you provide your Customers **flexible solutions** regardless the location of the objects, including hard-to-reach places (basements, wells) and remote regions (with a weak mobile signal)



User Cases

System Components

Remote monitoring of manufacturing operations

Water meter

ZENNER



WPD T50
Diameter: **DN80**
Manufacturer: **Zenner**
Additional functionality: **limit control**
Daily limit – **28 m³**.

Water meter

APATOR
POWOGAZ



JS Impero (R315)
Diameter: **DN50**
Manufacturer: **Apator Powogaz**
Additional functionality: **precise measurements for R315 – H**

Gateway

kerlink
communication is everything



Wirnet iStation
Outdoor LoRaWAN gateway.
Manufacturer: **Kerlink**
Additional functionality: **GPS, 4G, LoRa**

Pressure sensor

Milesight



EM500-PP
Pressure LoRa sensor
Manufacturer: **Milesight**
Additional functionality: **measuring accuracy of ±0.5% FS**

System Components

Remote monitoring of manufacturing operations

Temperature sensor



Precision platinum temperature sensor
Temperature LoRa sensor
Manufacturer: **Lansitec**
Additional functionality: **-180..+180°C measurement range**

Data device

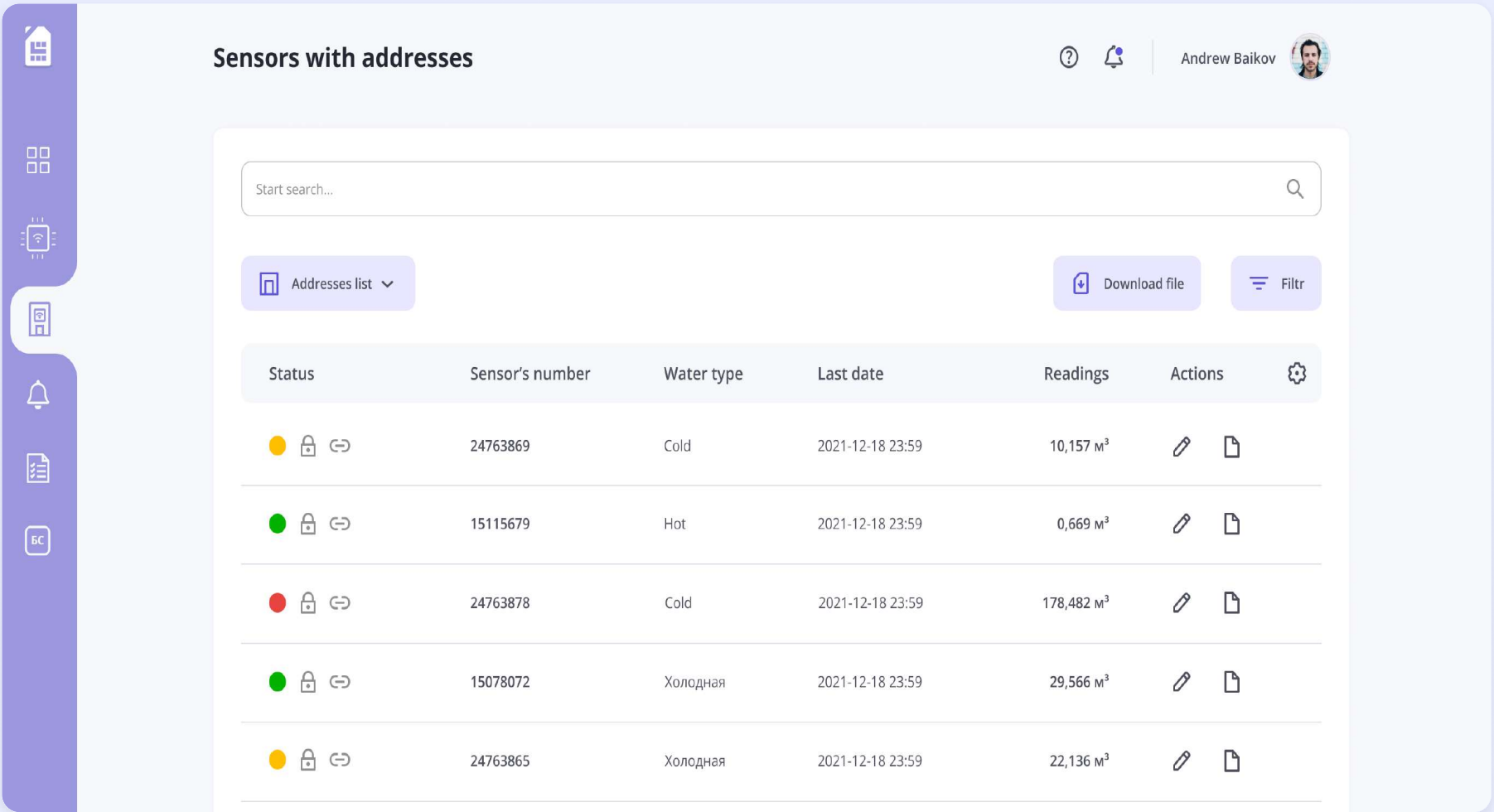
ZENNER



PDC-communication module (pulse reader)
Manufacturer: **Zenner**
Additional functionality: **self-monitoring, meter stop detection**

IoT platform

IOTANS

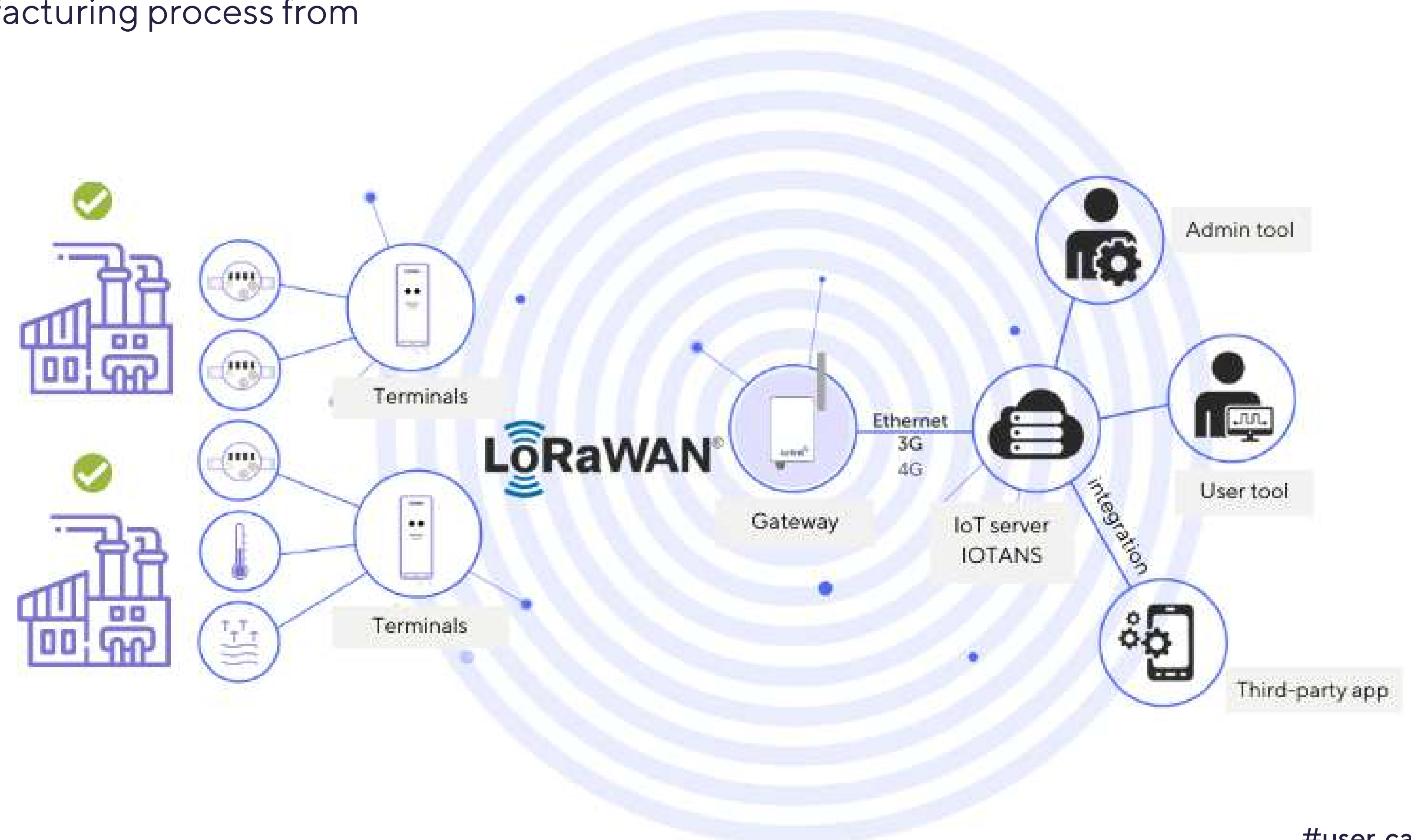


IT product designed to visualize data received from various metering devices remotely

System Components

Remote monitoring of manufacturing operations

The data is collected and transmitted to the cloud. And because of remote accessibility, manufacturers can detect issues, make adjustments, and optimize the manufacturing process from anywhere in the world.



System Components

Smart building

Water meter

ZENNER



WPD T50
Diameter: **DN80**
Manufacturer: **Zenner**
Additional functionality: **limit control**
Daily limit – **28 m³**.

Heat meter

ZENNER



Zelsius
Heat meter with single-jet flow sensor
Manufacturer: **Zenner**
Additional functionality: **reaction-free electronic impeller detection**

Gateway

kerlink
communication is everything



Wirnet iStation
Outdoor LoRaWAN gateway.
Manufacturer: **Kerlink**
Additional functionality: **GPS, 4G, LoRa**

Air quality sensor

ENVIRA
SOSTENIBLE



Nanoenvi IAQ
Indoor air quality LoRa sensor
Manufacturer: **Envira**
Additional functionality: **monitors a wide range of pollutants including VOCs, CO2, and PM2.5/PM10**

System Components

Smart building

Motion sensor



Elsys ERS
Indoor environment LoRa sensor
Manufacturer: **Activity**
Additional functionality:
temperature, light, humidity sensors

Data device



PDC-communication module (pulse reader)
Manufacturer: **Zenner**
Additional functionality: **self-monitoring, meter stop detection**

IoT platform



Sensors with addresses

Start search...

Addresses list Download file Filter

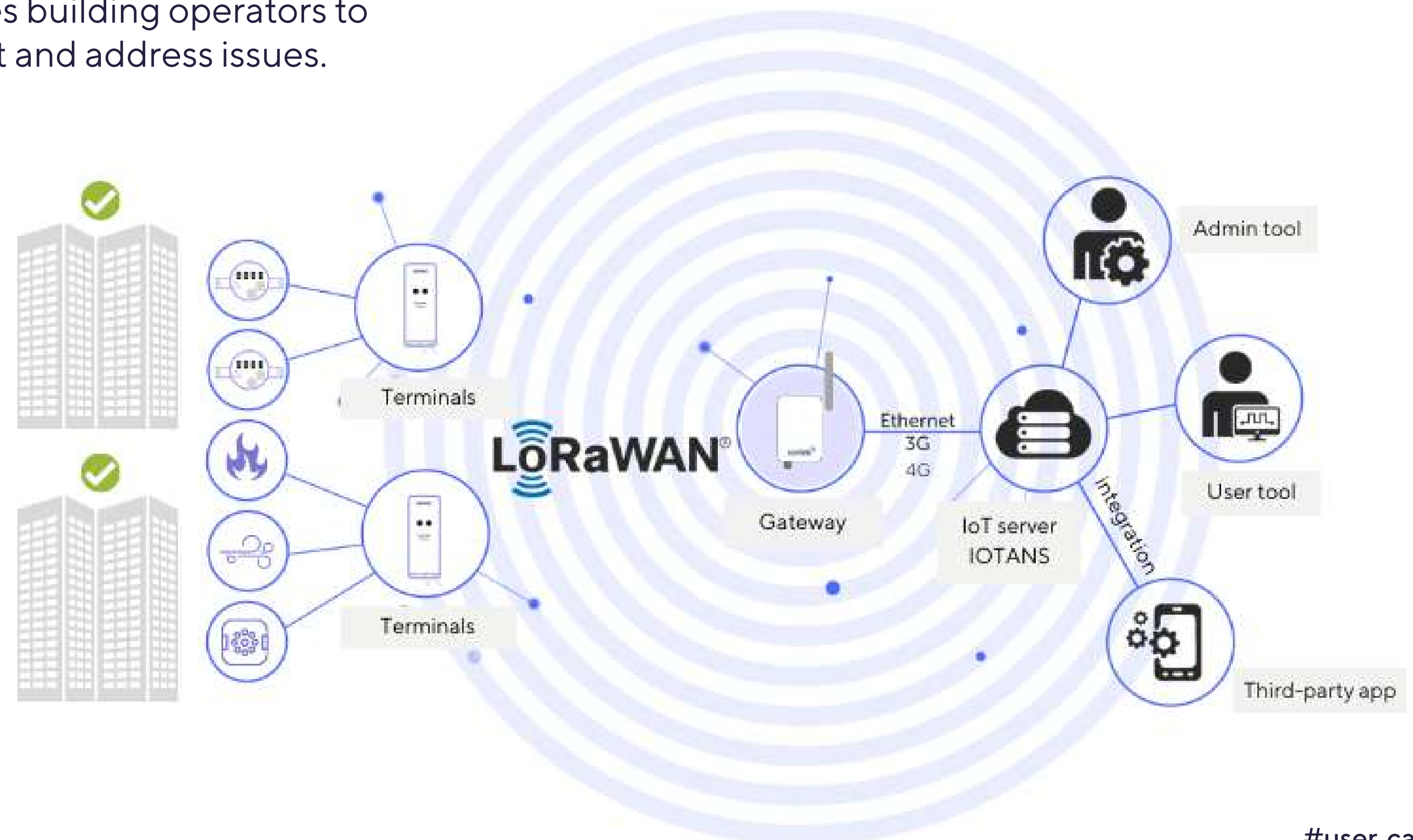
Status	Sensor's number	Water type	Last date	Readings	Actions	
● 🔒 ↔	24763869	Cold	2021-12-18 23:59	10,157 m³	✎ 📄	
● 🔒 ↔	15115679	Hot	2021-12-18 23:59	0,669 m³	✎ 📄	
● 🔒 ↔	24763878	Cold	2021-12-18 23:59	178,482 m³	✎ 📄	
● 🔒 ↔	15078072	Холодная	2021-12-18 23:59	29,566 m³	✎ 📄	
● 🔒 ↔	24763865	Холодная	2021-12-18 23:59	22,136 m³	✎ 📄	

IT product designed to visualize data received from various metering devices remotely

System Components

Smart building

This solution integrates advanced meters and intelligent devices to provide real-time monitoring and control of various systems within a building. This solution enables building operators to optimize energy consumption, detect and address issues.

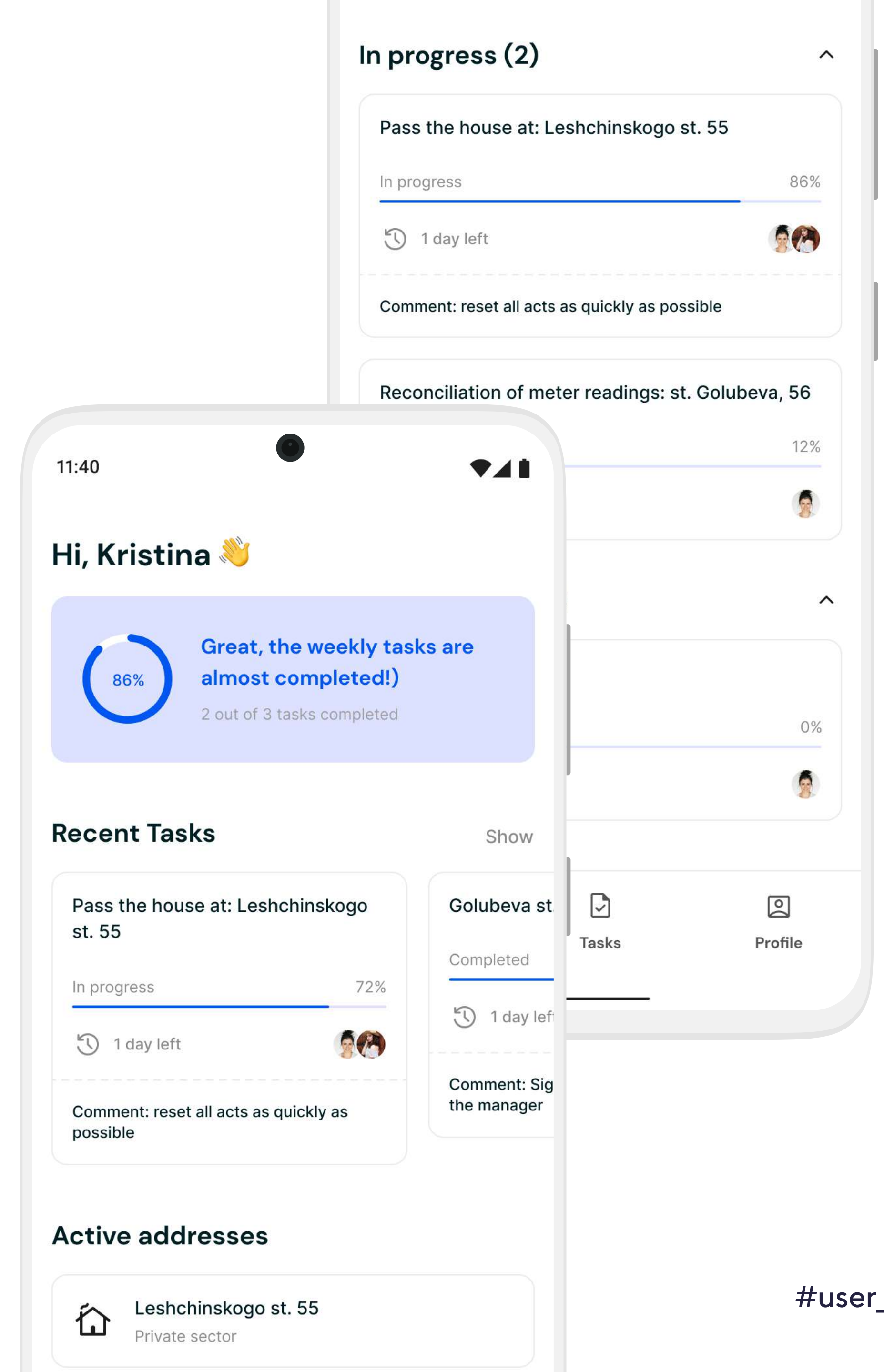


Mobile app IoT Inspector

IoT Inspector is an indispensable tool **for resource-supplying organizations** that helps to accurately track resource consumption, ensures the integrity of collected data, and optimizes the work of meter readers and other utilities specialists.

With the app, you will be able to:

- **quickly and accurately compare consumption data** with devices, which will avoid errors and ensure the accuracy of resource accounting;
- **store all data on devices and resource consumption in one place**, which will simplify your work and make it more efficient;
- **manage your tasks** by changing their status;
- **create and send reports** based on collected data.



#user_case

Mobile app IoT Inspector



Reduction of human factor in meter reading and data transmission

The application minimizes the probability of meter reader's error and makes consumption accounting more accurate



Work optimization

The application automates and speeds up the process of inspection, as well as provides remote control of an unlimited number of inspectors and specialists in device installation/repair

Save up to 20% of energy resources per annum due to the timely leak and fraud detection

Scheme

Managers

Sets the task for crawlers to
bypass / verify a house or
apartment



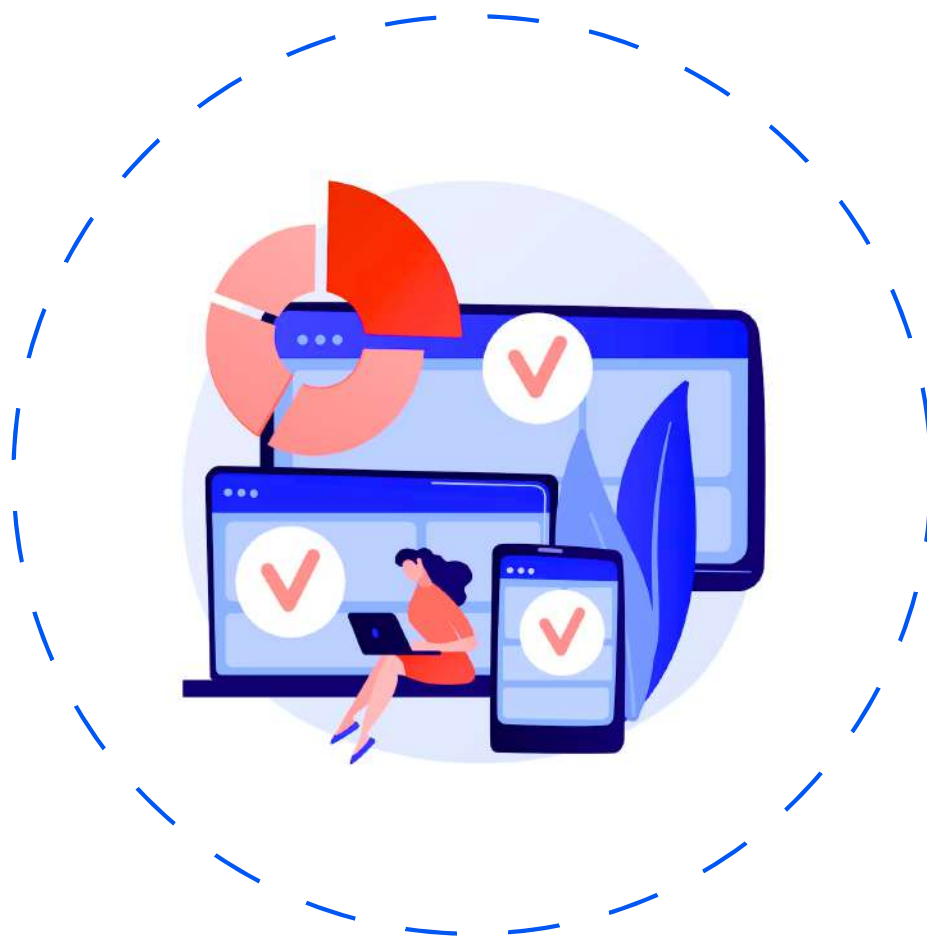
Bypasses

They see this task in the application
and make a tour/reconciliation of the
house or apartment



Manager

Tracks walks remotely and sees:
task completion status and
passed objects



Equipment of Own Production

Device: Iotans Module

Low-power radio module for pulse counting and valve control, equipped with battery power and a modem.

The device is capable of extracting readings from energy monitoring devices, sensors, and industrial equipment with 4-20 mA, RS485, RS232, or pulse output interfaces. It is designed to connect up to 2 valves and allows for separate control of each valve, while ensuring device autonomy for up to 5 years. IOTANS module is also resistant to external mechanical impacts.

Application:

- remote control of water supply valves in emergency or service situations
- water supply on schedule in cases where access to water must be limited in time
- detection of leaks to prevent flooding of rooms with water or other liquids



Device: Iotans Module

Protection class	IP67
Current input	1
Pulse counter	2
Security input	1
Dimensions, mm	115x90x55
Weight, kg	0,256
Powered by replaceable battery, V	3,6
Powered by power supply, V	9-24
Temperature range	0...+85°C



Valve RSZ

Purchased with IOTANS VALVE MODULE

Bistable shut-off solenoid valve **for distributing and regulating the amount of water supplied**. Internal power combined with external.

Zero energy consumption by the valve in the end positions, energy is spent only on switching the position. Managed remotely through the IOTANS platform interface.

- Service life - **more than 6 years**
- **Not subject to corrosion**

Protection class	IP67
Working environment:	air, water, liquids
Fluid temperature	-0~ 85 ° C
Valve body material	stainless steel SS316
Pipe diameter	DN15 - DN50



Software IoT Platform

IoT Platform IOTANS

447 695 672

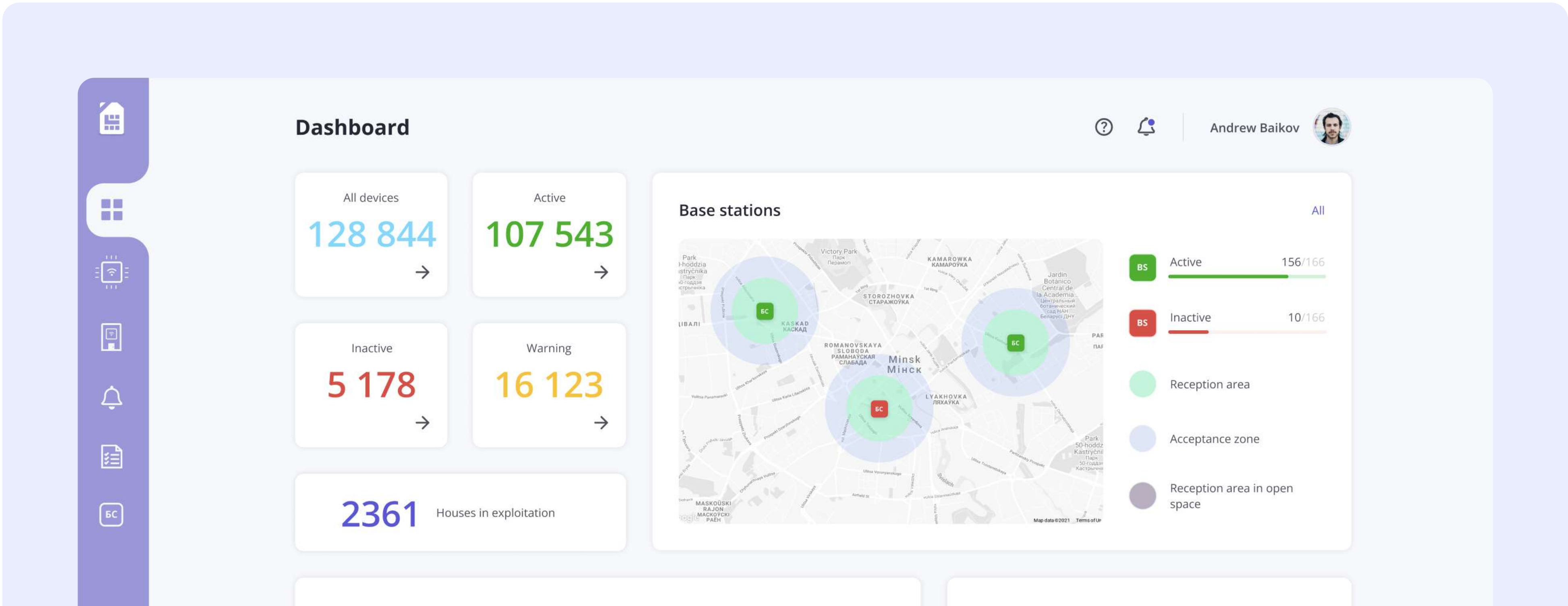
transmitted data packets for the entire period of platform operation

> 10 000 000

packets per day – platform throughput

15 packs

average packet processing rate per 1 second



Platform Advantages

Versatility

Number of connected devices **is unlimited**

Integration

With billing systems with **data transfer via API**

Fault tolerance

Modern microservice architecture

Scalability

The platform is designed for **high network load** and is applicable on a city and country scale

Safety

Data backup and storage, as well as various levels of **cryptographic protection** for packet transport

Flexibility

Customization with the possibility of **expanding functionality**



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