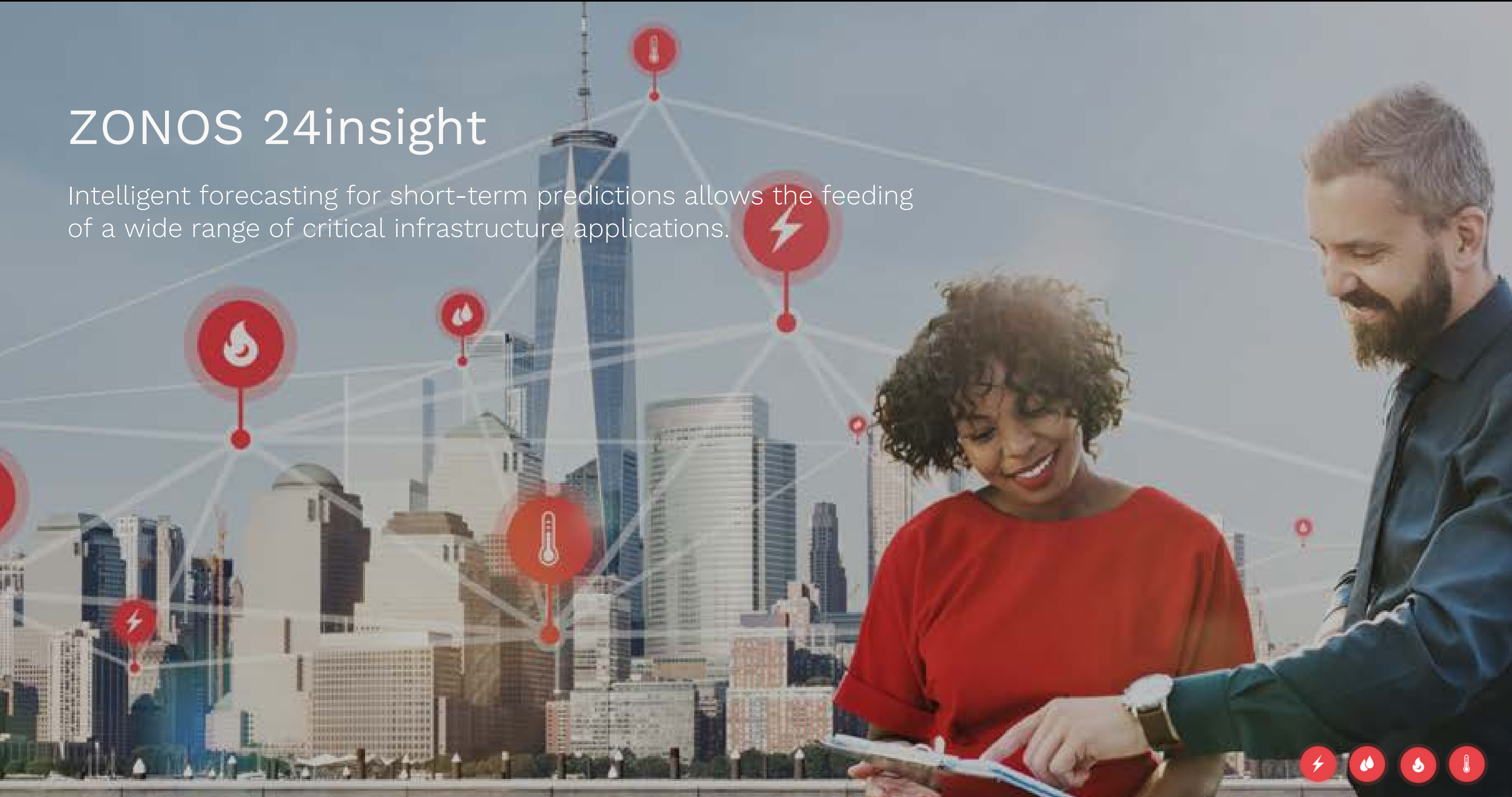# ZONOS 24insight

Intelligent forecasting for short-term predictions allows the feeding of a wide range of critical infrastructure applications.

ZONOS 24insight is a powerful data analysis software for short-term predictions with a wide range of applications in critical infrastructures. Predictions are made using historical time series data and state-of-the-art machine learning algorithms based on the theory of dynamical systems.

A major challenge in managing critical infrastructures such as power grids and water systems is to continually balance supply and demand. A reliable forecast of demand is essential in order to optimize the production of critical goods (e.g. electricity, water) and to maintain grid stability.

ZONOS 24insight offers a user-friendly solution by providing precise real-time forecasts with low maintenance costs. The high forecast accuracy enables better planning for the operator and thus saves money and reduces greenhouse gases.

USE CASES

- EFFICIENT ENERGY PRODUCTION
ZONOS 24insight is ideally suited for load forecast 1 to 7 days ahead.
This enables system operators to better plan energy production and thus save energy and money.

- AVOIDANCE OF FINES
In many countries, network operators have to pay fines if their forecasts differ too much from the actual values. Using ZONOS 24insight prevents such additional costs due to its high forecast accuracy.

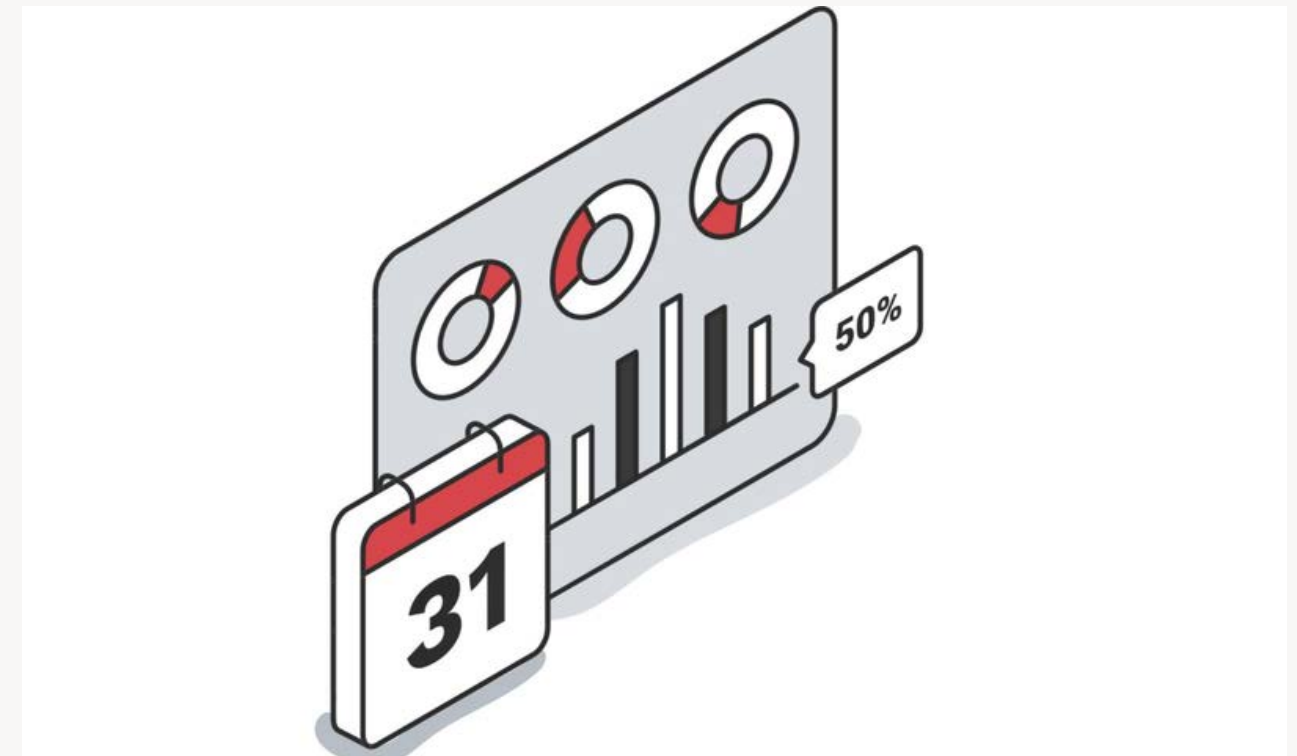- MINIMIZE THE COST OF BUYING ADDITIONAL POWER
Network operators have to buy additional power if power generation does not meet demand. With ZONOS 24insight, these costs can be minimized by making forecasts using custom cost functions.

- INCREASE REVENUE IN WATER SYSTEMS
ZONOS 24insight makes precise predictions in water systems. This enables operators to reduce operating costs through the efficient use of pumps and optimal pressure management.

- FORECASTING OF RENEWABLE ENERGY GENERATION
With the advanced (multivariate) version of ZONOS 24insight, excellent forecasts for wind and solar energy production can be achieved. This enables operators to better control the supply and demand in their system, which saves money and improves grid stability.

ELECTRICITY

WATER

ZONOS

GAS

HEATING & COOLING

MULTI-VENDOR AND MULTI-COMMUNICATION TECHNOLOGY SUPPORT

Complete multi-vendor and multi-technology integration. We provide out-of-the-box capabilities for more than 200 different types of smart meters or legacy meter with various gateway ad data cencentrators and other devices. Benefit from an open solution that supports any kind of communication technology.

MULTI-UTILITY CAPABILITY

Supporting all smart meter types
The IoT Platform supports electricity, water, gas, heat, and cooling utilities — and has the ability to communicate to both residential and industrial meters.
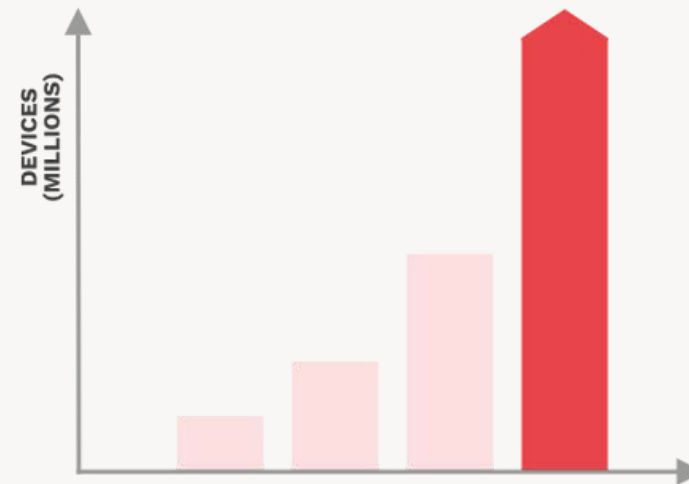
A SCALABLE SOLUTION, USED FOR JUST A FEW THOUSAND METERS UP TO MILLIONS OF METERS

The IoT Platform supports several billion-meter readings a day, and can be processed and read in short intervals. Our product team continues to develop state-of-the-art system upgrades that will increase these daily meter readings further.

DEVICES (MILLIONS)

ZONOS

Crystal

Danfoss

kamstrup

INHEMETER

Landis+Gyr
manage energy better

深科技
KAIFA

sensus
a xylem brand

ZONOS 24insight

FEATURES

- Real-time point forecasts including prediction intervals
- Multi-utility support (power, gas, water, heat, etc.)
- Forecast based on current and past time series data
- Special treatment of public holidays
- Advanced forecasting using climate variables
- High forecast accuracy of less than 3% forecast error possible

ADVANTAGES

- Seamless integration through ZONOS API
- Full access to all data in ZONOS IoT Platform
- Melting analytics & real data by using ZONOS Module ReportPlus
- Upgrade to custom-designed forecast solutions possible
- No additional data cleansing necessary
- Low maintenance costs

LIVE DEMO

Our Live demo shows the high forecast accuracy of ZONOS 24insight using publicly available data from the most important European transmission network operators.

The Live demo:
- Demonstrates in real time that ZONOS 24insight creates excellent day-ahead load forecasts, often in the range of 3-4% forecast errors
- Shows that ZONOS 24insight's forecasts are better than those of most European transmission system operators.

The consumption of power, water, gas and heat results from complex interactions between meteorological and socio-economic factors.
Ordinary forecasting techniques usually fail to provide accurate predictions in such a dynamic environment.

ZONOS 24insight has been developed to overcome these limitations.
By using proprietary data analysis technologies, 24insight enables accurate predictions for critical infrastructures, even when consumption dynamics are high-dimensional and strongly nonlinear.

The share of renewable energies is growing rapidly worldwide.
Predicting wind and solar energy is difficult, however, as the production depends not only on local weather but also on the condition of the systems and possible self-consumption. Classic forecasting techniques usually fail in such complex situations. The extended (multivariate) version of ZONOS 24insight was developed to provide accurate forecasts for such situations. This enables network operators to better manage their systems and maintain a high level of grid stability.

ZONOS 24insight is fully automated and user-friendly. Past time series data are used to generate a forecast model. Real-time forecasts are made by feeding automatically the forecast model with current data. Forecast data are provided digitally for further processing. The forecast and a summary of the performance of past forecasts are shown in dashboards that are constantly updated and storable.

We're Cuculus GmbH

Enabling utilities and organizations to successfully transition to a new era of providing and managing electricity, water, and gas.

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