



Affordable energy and water for everyone

ZONOS™ TheFuture

Precise forecasting data. Receive a highly accurate forecast package derived from both current and historical data series, ensuring reliable and precise predictions for future trends.

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ZONOS TheFuture is a powerful data analysis software that delivers accurate and reliable short and long-term forecasts. It is used for applications such as load prediction, forecasting renewable energy generation, assessing grid stability, anticipating corrosion processes, and exploring dynamic pricing scenarios.

The software leverages historical time series data and advanced machine learning algorithms, grounded in dynamic systems theory to generate precise predictions for various utility and energy-related needs.

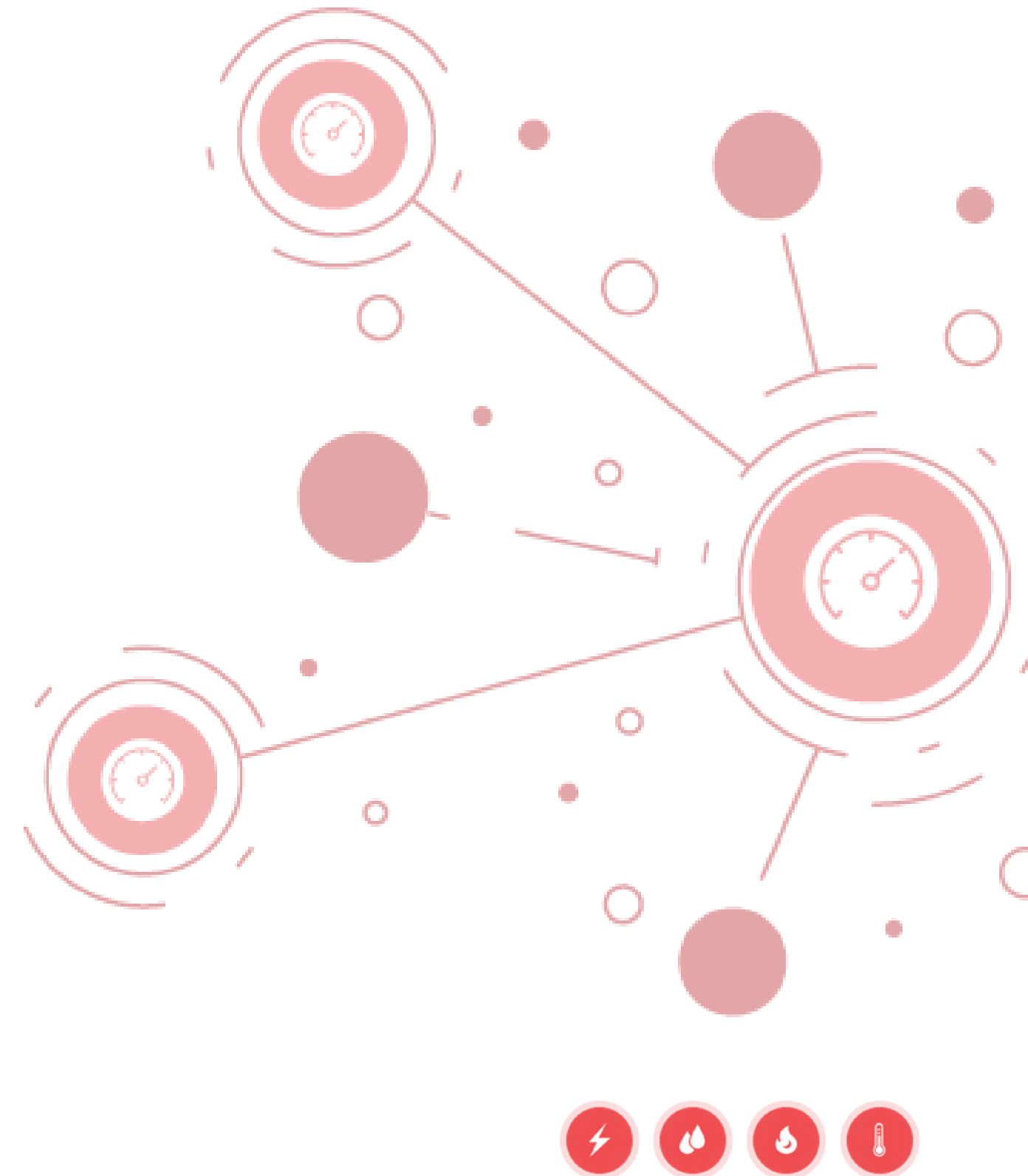
ZONOS TheFuture consists of four key components.

- **ZONOS 24insight** is designed for high-precision short-term predictions, making it ideal for day-ahead forecasts of renewable energy generation and electricity load (see our [live demo](#) for details).
- **ZONOS Infinity** enables robust long-term forecasting and trend analysis, providing valuable insights for future planning.
- **ZONOS GridProtect** uses proprietary data analysis technologies and generic algorithms to anticipate corrosion processes and assess network stability.
- **ZONOS PriceAndMore** offers versatile applications, from analyzing dynamic pricing to exploring scenarios in IoT applications.

These components work together to provide comprehensive forecasting and analysis capabilities for various utility and energy management needs.

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Use Cases

EFFICIENT ENERGY GENERATION

A major challenge in managing power grids is to continually balance supply and demand. A reliable forecast of demand is essential in order to optimize the production of electricity and maintain grid stability. ZONOS 24insight is ideally suited for load forecasts 1 to 7 days ahead. Therefore, the system provides a precision tool to better plan energy production and thus save energy and money.

AVOIDANCE OF FINES

In many countries, inaccurate demand and generation planning results in pay fines for the market participants. Using ZONOS 24insight prevents such additional costs due to its high forecast accuracy.

LONG-TERM CONTRACTS OF ENERGY BUY/SALE

The good long-term forecasts from ZONOS Infinity enable energy market participants to negotiate better long-term contracts for the purchase and sale of electricity.

FORECASTING OF RENEWABLE ENERGY GENERATION

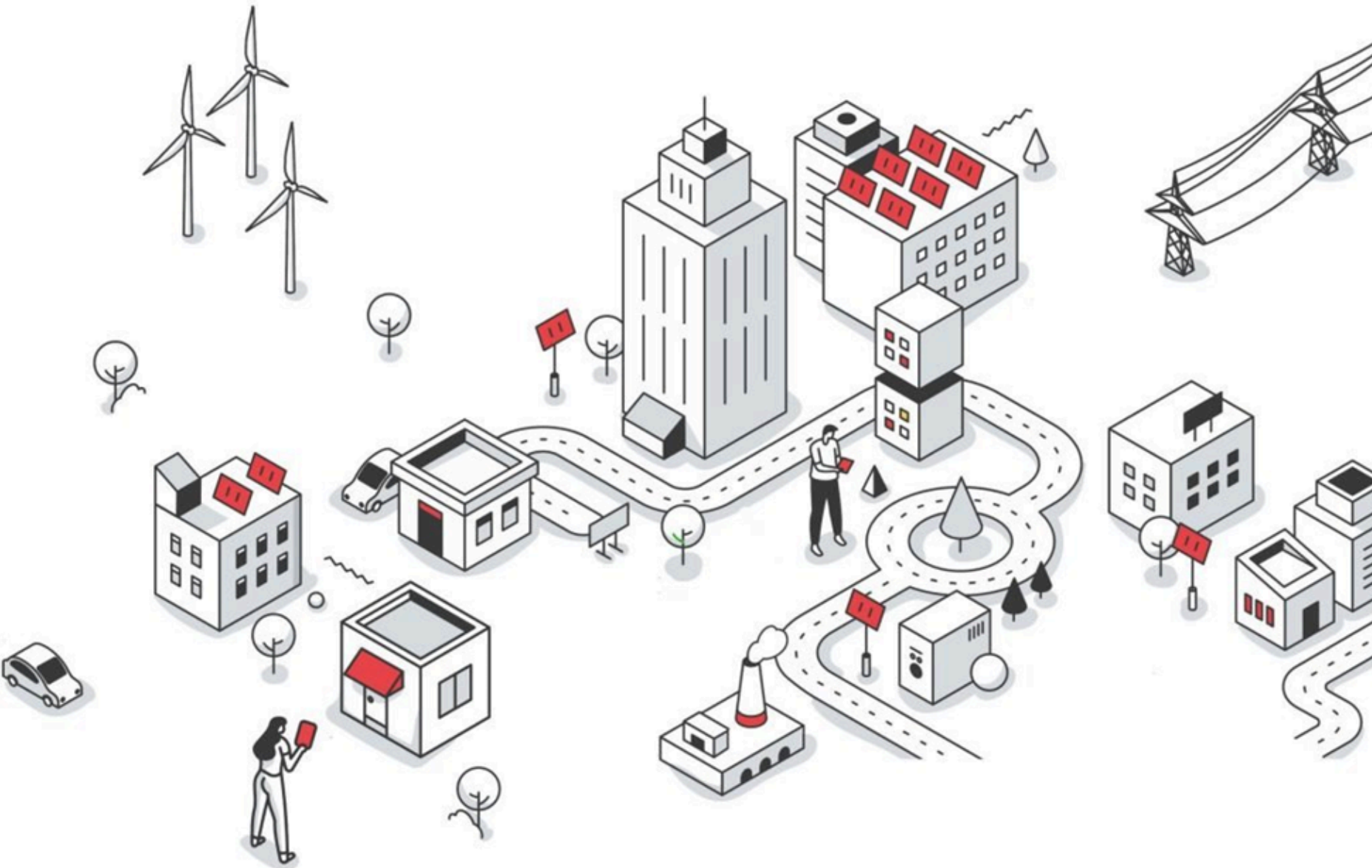
With the advanced (multivariate) version of ZONOS 24insight, excellent forecasts for wind and solar energy production can be achieved. Especially for renewables, precise forecasting is important to account for the volatile generation capacity and provide the power as planned.

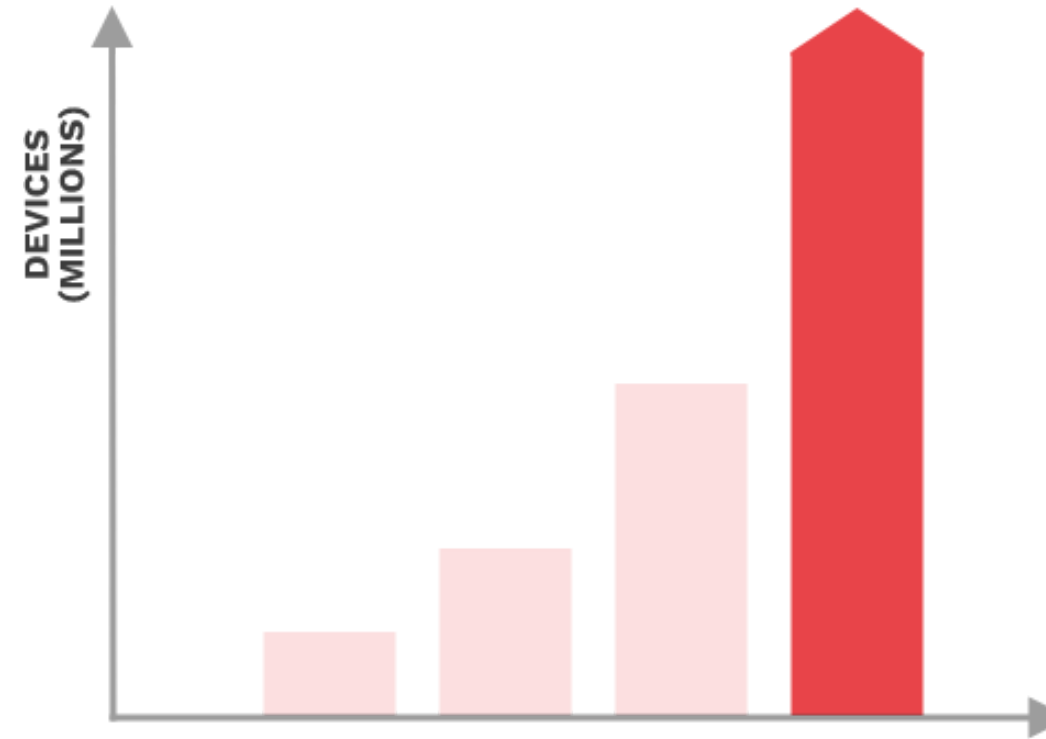
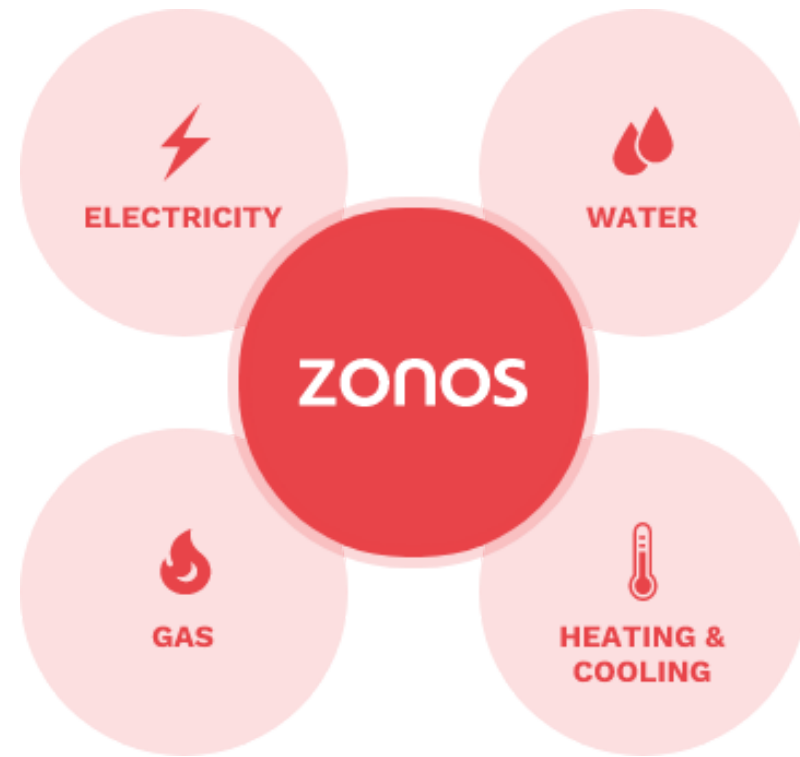
VIRTUAL POWER PLANTS

A major challenge in managing virtual power plants is to balance the demand in the local grid with renewable energy. The advanced (multivariate) version of ZONOS 24insight offers an excellent solution for this with its precise forecasts for wind and solar power production.

CONSTRUCTION OF NEW PRODUCTION FACILITIES

ZONOS Infinity enables long-term forecasts over several years. This enables utility companies to better plan when and where new production facilities are needed.





MULTI-UTILITY CAPABILITY

The IoT Platform supports a wide range of smart meter types, including electricity, water, gas, heat, and cooling utilities. It is capable of communicating with both residential and industrial meters, offering versatile solutions for various utility needs.

SCALABLE SOLUTION, USED FOR MILLIONS OF METERS

The IoT Platform is capable of handling several billion meter readings per day, with the ability to process and read data in short intervals. Our product team is continuously working on state-of-the-art system upgrades to further increase the volume of daily meter readings.

MULTI-VENDOR AND MULTI-COMMUNICATION TECHNOLOGY SUPPORT

We offer complete multi-vendor and multi-technology integration, providing out-of-the-box capabilities for over 200 different types of smart meters and devices. Our open solution supports any communication technology, ensuring seamless integration across a wide range of devices and systems.





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THE FUTURE FEATURES

- Real-time point forecasts, including prediction intervals
- Multi-utility support (power, gas, water, heat, etc.)
- Can be integrated with centralized and uniform event and alarm management
- Forecast based on current and past time series data
- Short-term precision forecast with ZONOS 24insight
- Robust long-term forecast and trend analysis with ZONOS Infinity
- Evaluation of grid stability with ZONOS GridProtect
- Dynamic pricing and scenario exploration with ZONOS PriceAndMore

ZONOS TheFuture is fully automated and user-friendly. For all four components, past time series data are used to generate the forecast model.

Real-time forecasts are made by automatically feeding 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.

APPLICATION AREAS

- Forecast and management of electricity demand
- Forecasting of renewable energy generation
- Prediction of water and gas consumption
- Optimization of heating systems
- Management of agricultural processes
- Improvement of power grid stability
- Anticipation of corrosion status of cables
- Consumer behavior analysis and pattern recognition
- Input for energy trading contracts
- Support of dynamic pricing by the forecast of market dynamics
- Fraud detection
- Scenario exploration under climate change

ADVANTAGES

- Seamless integration via ZONOS API
- Full access to all data in ZONOS IoT Platform
- No additional data cleansing necessary
- Usage of module output for further data processing possible
- Merging analytics and real data via ZONOS module ReportPlus
- Customizable





We're Cuculus

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

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