Diehl Metering Energy Network Analytics makes heating networks more intelligent

With Energy Network Analytics, Diehl Metering empowers heat utilities to unlock new value in their heating network without having to make a major investment. This powerful solution transforms existing heat meter data into valuable intelligence, delivering a precise overview of heat distribution across the entire network. For heat utilities, the benefits include increased network efficiency, reduced costs and greater customer satisfaction.

Energy Network Analytics relies on a fixed network combined with smart heat meters and flow sensors that provide regular data about individual buildings, individual consumptions, and the heat distribution network as a whole. All this information is then transmitted to the powerful Central Data Management software IZAR@NET 2, if hosted locally on the heat utility's server – or IZAR PLUS PORTAL if they opt for Software as a Service.

The software interprets the data to deliver a clear dashboard of the heat distribution system, providing insightful analytics and useful alarms to alert utilities to anomalies in their heating network. Diehl Metering's IZAR software also offers multi-utility and multi-sensor support, making it possible to combine different parts of the utility's business on a single platform. Furthermore, utilities can even work with us Diehl Metering as part of its newly-launched IoT Network Planning Service to plan a fully-compliant and future-proof network, ensuring their individual wishes, needs and expectations are catered for, both now and in the future.

Energy Network Analytics is made up of multiple features, with each helping to build a clearer picture of the overall heat distribution network.

Swarm Analytics for improved temperature spread

The Swarm Analytics feature enables utilities to identify high return temperatures in their network, potentially caused by poorly-managed transfer stations, poorly-adjusted heating systems, oversized heating components or disadvantageous heating patterns. For each heat meter, important system parameters are monitored, such as return temperatures and spread (Delta T), and transformed on the IZAR software into charts clustering consumers together according to their consumption class (low, medium or high). This allows heat utilities to precisely identify where high return temperatures are occurring and why, empowering them to fix faults quickly or provide consumers with tailored consulting to help improve their consumption habits.

Smart Leak Detection

Leaks in the distribution network and in buildings can be extremely costly, as well as posing safety risks to consumers. That's why Energy Network Analytics includes a Smart Leak Detection function. By gathering data from flow sensors and ultrasonic heat meters like SHARKY 775, flow rates are evaluated across the network. As soon as an anomaly occurs, the SHARKY meter sends a notification with information about the location and nature of the problem. It is even possible to customize Smart Leak Detection to forward leakage alarms to consumers, helping to grow customer satisfaction.

Heat Distribution Optimizer

Any heat that is produced by utilities but doesn't reach consumers is synonymous with wasted energy, poor sustainability and additional cost. While such heat loss is often caused by aging pipelines or inadequate insulation, the challenge is to know where this is happening in the network. That's where Energy Network Analytics comes in. By permanently monitoring flow temperatures at multiple points, it determines the
temperature in the pipes to a very high degree of accuracy. Using IZAR software, heat utilities can define their own thresholds for alerts – and then be immediately notified to signs of heat loss early on in the process.

Boiler Efficiency Analysis

Without regular efficiency monitoring, most boilers operate significantly below their rated efficiencies. That's why Energy Network Analytics compares the energy brought into the boiler by gas with the thermal energy captured by SHARKY heat meters. It then calculates the efficiency of the boiler as a percentage relative to the claimed efficiency of the manufacturer. This offers utilities near-real time tracking of their boiler's efficiency, allowing them to monitor it long term and optimize the lifetime costs.

Map Layers for a clear overview

One of the strengths of Energy Network Analytics is that it interprets masses of network data and repackages it in an easy-to understand format. Through map layers, utilities have a clear overview of their network, allowing them to visualize the precise geographic location of different devices and meter endpoints – and to pinpoint the places where they need to intervene.

Digital Twin Simulation

By collecting data from numerous neighboring devices, Energy Network Analytics can create virtual meters that calculate consumption values for a given building, group of buildings, or any sub-section of a network. This enables utilities to monitor overall network energy efficiency even more accurately and identify further opportunities for cost savings. They can even generate new business by reselling virtual meter analyses to third parties.

Through this multi-faceted approach, Energy Network Analytics creates new value in any heating network equipped with Diehl Metering heat meters and flow sensors. The solution capitalizes on the wealth of data already available in the network to provide unique, actionable insights. For heat utilities, this represents an affordable way to make significant gains in productivity, optimize costs and increase customer satisfaction. It also helps to drive sustainability for both the utility and the community it serves. In this way, Energy Network Analytics forms part of Diehl Metering's commitment to empower a sustainable future for everyone, everywhere.

About Diehl Metering

Diehl Metering is a worldwide leader in the design, manufacture and supply of smart metering solutions. With over 150 years of experience, we empower utilities, municipalities and industries to take control of their infrastructures, bringing new efficiencies to the way they manage water and energy.

Our extensive range of services and solutions includes data-driven insights, IoT connectivity, fully-flexible software, and seamless intelligent metering. We also utilise artificial intelligence to boost performance and deliver cost savings for our customers.

Headquartered in Germany, we are a family-owned business with an international reach. We are proud to maintain our founding principles of quality, reliability and customer proximity while

proactively shaping a better future for our customers and the communities they serve. Our approach is to think global and act local. By anticipating trends and remaining agile, we adapt and develop our strategy with our customers and for them.

In supporting their long-term growth, we also contribute to the sustainability of the planet, crafting innovations that enable our customers to make ever better use of the natural resources we all rely on.