

**Solutions. For smart water
and energy use.**



Company presentation

HOW RESPONSIBLY ARE YOU USING WATER AND ENERGY?

Global challenges are fundamentally changing the way our industry works.

Climate change calls for new ways of generating energy – and for responsible consumption habits. The increasing global population needs water and energy, but more and more people have no access to clean drinking water.

Urbanisation poses huge challenges for our coexistence in large urban areas. In these times of globalisation, the worldwide networking of infrastructures and processes is becoming increasingly important. The opportunities and risks of digitalisation are palpable in all areas of life.

We owe it to our environmental heritage and later generations to implement effective, far-sighted solutions. Politics, industry, agriculture, and every single one of us – we must all learn to be sustainable in our actions.

Diehl Metering supplies solutions for the intelligent use of water, thermal energy, gas and electricity. All over the globe, we help water and energy suppliers, communities and the industrial sector to make their processes more efficient – from meter reading to billing. We support smart city and smart grid concepts, the reduction of CO₂ levels – and the responsible use of our planet's precious resources.

HOW DO YOU PREVENT WATER LOSSES IN YOUR NETWORK?

Take control of your water and heating network.

Burst pipes, gradual leaks, non-revenue water: all over the world, water suppliers and operators of district heating or cooling networks suffer huge financial setbacks from water losses and non-billable quantities of water and energy. More than anywhere, this happens in places where energy is precious and drinking water is in scarce supply.

Diehl Metering develops solutions for the most demanding requirements. Our robust technologies deliver high-precision results, even under extreme climatic and environmental conditions, or when the shafts are flooded or sand or dirt is caught in the pipes.

Combined with our high-performance Diehl Metering radio technology, our meters are ready for mobile readings (via a mobile or fixed network, for example).

Take full advantage of the high-resolution metering data to monitor the entire water or district heating network. We will help you to quickly detect and fix leaks and water losses in a cost-effective way.

Philippe Cuny, Essilor: "Diehl Metering's solution provides key indicators for every kind of consumption. The process improvements made as a result of analysing this data allow us to use 50% less water in a year. Data analysis enables us to identify leaks or deviations from normal readings so we can take the necessary remedial action more quickly."

HOW CAN YOU OPTIMISE YOUR PROCESSES – FROM METERING TO BILLING?

Produce transparent consumption data – the simple, cost-effective way.

The process from manual readings and administration through to billing is becoming an increasing source of strain for water and energy suppliers. Appointments have to be made and sometimes repeated. Meters installed in dark cellars and shafts are difficult to access. Moving in and out of homes, billing complaints and manual errors – these are all time-consuming and resource-intensive.

Diehl Metering's solutions provide a continuous data stream – from the meter to monitoring, data management and analysis. Obtain accurate reading date values simply and efficiently, especially on moving in/out dates, via mobile readings or a fixed network.

We will help you to get more out of the high-resolution metering data. Automate your monthly billing. Reap the benefits of a wide range of monitoring and analysis functions. Offer new services for your consumers, such as an online consumption overview.

Multi-utility providers have the most to gain, with the ability to read water, thermal energy, gas and electricity data via the same infrastructure. This reduces the costs per metering point and increases overall efficiency.

Thomas Vollmar, Head of Metering – Berliner Wasserbetriebe: "From the collection of meter readings through to the transmission and the billing system, the implementation of the Diehl Metering drive-by solution made the whole process significantly faster, safer and more reliable."

HOW FUTURE-ORIENTED ARE YOUR INVESTMENTS?

A safe, adaptive path towards digitalisation – step by step.

Be on the safe side with a Diehl Metering solution, regardless of how the technological standards evolve in the coming years. Our high-performance IZAR radio system gives you barrier-free access to the Internet of Things (IoT). Our extremely flexible, adaptive solutions comply with the Open Metering System (OMS) specification.

Gradually expand the system with additional functions and services depending upon your current requirements and aims. As a reliable partner, we will support and work with you to develop future-proof business models.

Our strategy: we use high-quality metering technology for our solutions, an area in which we have 150 years of experience. We combine this with over 20 years of experience in smart, modular solutions that grow with your requirements.

Adam Degnan, Managing Director, Enware Australia Pty Limited: "The outstanding partnership between Enware Australia and Diehl Metering has allowed us to successfully roll out a number of AMI projects throughout Australia. Based upon the success of our IZAR deployments, we are well positioned in a market that is rapidly shifting gears in technology use."

DISCOVER THE SOLUTION THAT GROWS WITH YOU.

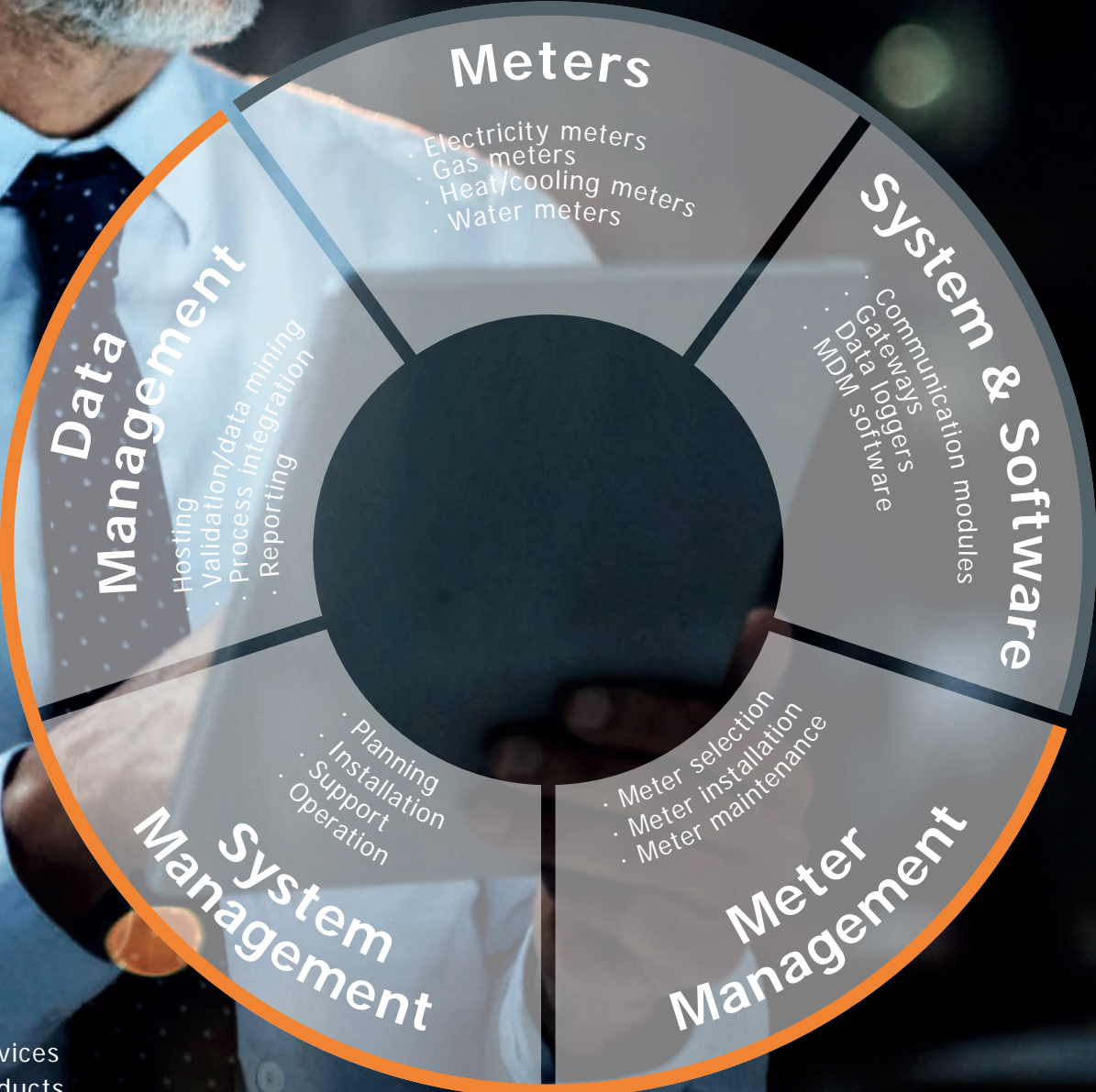
How can you make your processes simpler, safer and more efficient?

Our approach is tailored to the challenges facing water and energy suppliers: we will support you with powerful, modular radio technology that delivers high-frequency energy data – with stable transmission, a long range and low maintenance.

As a reliable partner, we will support you on your path towards digitalisation – ensuring your investment is sustainable. Our solutions can be seamlessly integrated into other systems – for example, network monitoring and complex smart city concepts. We use OMS 4.0 (Open Metering System specification) and other standards to ensure high connectivity. We are also setting industry standards when it comes to security: our data centre is certified according to DIN 27001. The data encryption for end devices is also at the highest international level.

We will help you to fulfil the legislative requirements with confidence –and to open up all kinds of new opportunities for adding value: for example, with smart tariffs, customer services and automatic billing, leakage recognition, system optimisation and network controlling.

Climb aboard with low investment costs. The OMS 4.0 radio technology from Diehl Metering is IoT ready. Expand your solution gradually and economically with system, software and service modules. Diehl Metering offers a complete one-stop spectrum of services.



INDIVIDUAL SERVICE MODULES. FOR A STRONG MANAGEMENT SYSTEM.

How do you control all your processes – from the convenience of the computer?

With the IZAR PLUS portal, we offer a central online platform for all kinds of energy data. Make all your processes simpler and more cost-efficient – from meters and remote reading to data management and data validation. Control your planning and monitoring, leakage recognition, network optimisation, automated billing and customer services.

Many water and energy suppliers want to use our IT services in a flexible way. This is why we also offer an option to lease the IZAR PLUS, allowing our customers to enjoy all the advantages of our product “as a service” based upon their needs. A service charge will be levied according to use. This provides security when planning and minimises risks. In the future, the IZAR PLUS portal will unite all the software services from Diehl Metering.

The IZAR PLUS portal offers a full service. Diehl Metering provides complete IT administration, maintenance and updates. You do not need to provide additional employees, and can instead concentrate entirely on optimising processes and achieving your strategic goals.

Our Fixed Network Planning service module supports customers who wish to implement a stationary meter reading network. We offer complete project planning services and will provide the construction plan for an economic, high-performance infrastructure – including optimal antenna locations. Investment costs can be considerably reduced through a more efficient architecture.

Diehl Metering continuously oversees the automatic meter reading network by means of the Fixed Network Monitoring module. We will deliver regular status reports for you along the desired quality parameter. If required, we will also maintain and optimise your network – including the changing of meters by our on-site technicians.



FLEXIBILITY. WITH OUR PORTFOLIO OF SERVICES.

How can you find the best solution for your challenges?

Diehl Metering gives water and energy suppliers the ultimate flexibility in their choice of solution: as well as our own IZAR radio fixed network solution, networks based on NB-IoT, LoRaWAN or other communication technology – or a smart combination of these technologies – can be used for fully automatic consumption data collection.

The latest generation of Diehl Metering IZAR radio technology stands for optimised coverage with the highest data quality. With a 100% efficiency rate, all meters within the network can be read reliably at any time and as often as is appropriate. Seamlessly transfer data into the IZAR meter data management software for centralised monitoring of the distribution network – in this way, for example, you can effectively detect water losses.

Carry out walk-by mobile readings or drive-by readings at up to 50km/h. A passive drive-by solution is also possible. For example, refuse collection vehicles can easily be fitted with radio receivers that automatically collect the signals from transmitting meters.

Collect data from consumption meters with minimal effort, correctly bill for the relevant date and automate tiresome routines. Your customers no longer need to read their own meters or be at home for meter readings.

Discover the perfect solution: a radio-based fixed network. All meters are read using permanent receivers in a fully automated, continuous process. Not even complex housing estates or industrial units get in the way of the convenient real-time monitoring of water and energy consumption on the computer. Optimise your networks, offer smart tariffs, cap power surges and provide new consumer services. For instance, consumers can receive an automatic alert if there is a leak in their home to prevent any further losses or damage.

With our solutions we are able to offer you IoT4metering and we can already seamlessly integrate our data into a wide range of smart city platforms via standardised interfaces and an open software architecture – enabling the linked presentation of meter data and a variety of other sensor data.

Our customers are perfectly prepared for the communication infrastructure of the future thanks to the excellent interoperability of our IZAR system solutions. With Diehl Metering's high data granularity and completely up-to-date data, our customers are fully prepared for the market requirements of the future.

We have expanded our portfolio with the latest technologies for the Internet of Things – Narrow-Band IoT (NB-IoT), LoRaWAN and other transmission technologies – and will continue to build on these in the future. We are therefore helping suppliers by making them more flexible and allowing them to respond to the changing conditions in the environment.

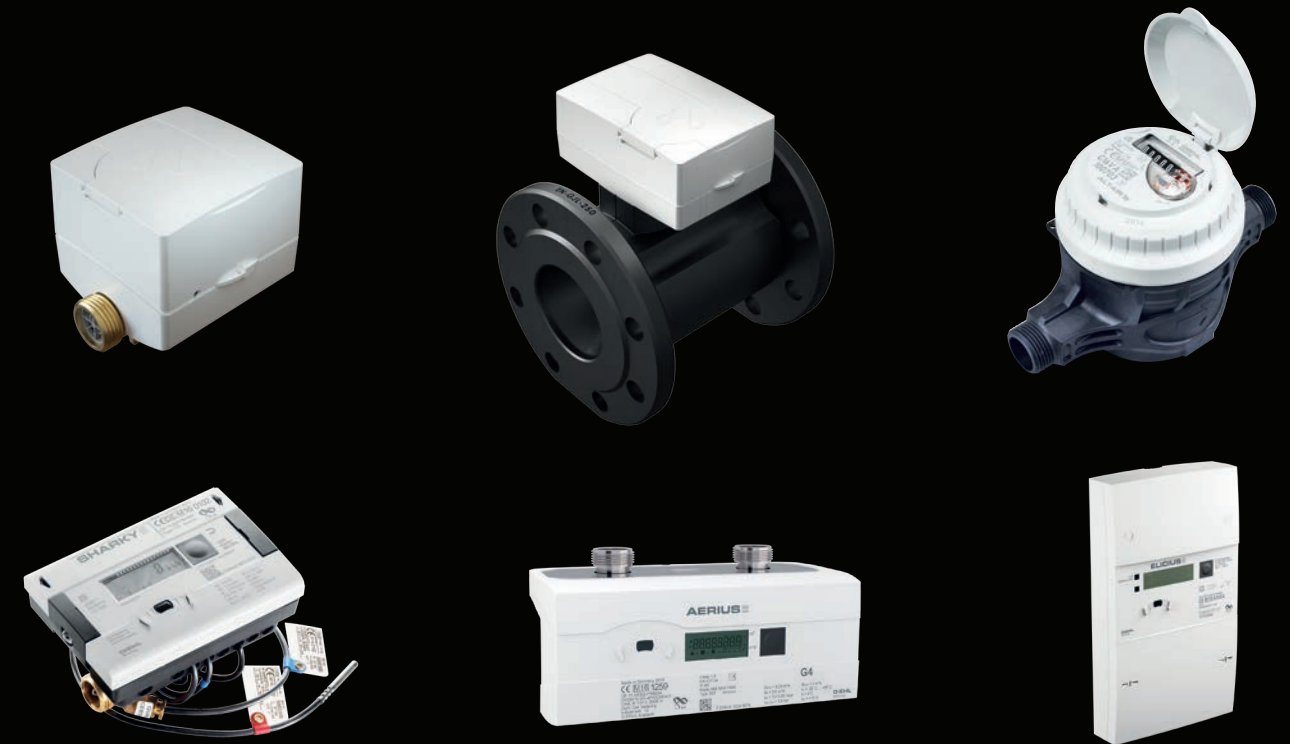
A combined solution consisting of our custom-tailored IZAR fixed network and a form of IoT communication technology, such as NB-IoT, has many benefits to offer: it enables water and energy providers to decide which technology they want to use to operate each network segment – we offer a future-proof option for all scenarios.

Our system solutions use the manufacture-independent and cross-sector Open Metering System (OMS) communication standard, which ensures that a wide range of sensors and devices from various manufacturers can be seamlessly integrated into an existing infrastructure. This allows water and energy providers to integrate both interoperable consumption meters and IoT sensors for other applications into the Diehl Metering network solution – today and in the future. With Diehl Metering, utility companies can establish themselves as operators of their own smart-city-compatible IoT infrastructure at an early stage – and move towards analysis and diagnostics.

HIGH-END METERING. FOR WATER, THERMAL ENERGY, GAS AND ELECTRICITY.



How sustainable is your infrastructure?



Water measurement technology

HYDRUS 2.0 – our legendary ultrasonic water meter is now also available as a bulk water meter. With OMS 4.0, the HYDRUS 2.0 solution is highly connective and ready for use with the IoT (Internet of Things). It meets the highest international requirements for data protection and data security. With this system, we are helping to prepare water and energy suppliers for digitalisation. A modern classic, our ALTAIR V4 is setting new standards for volume measurement technology. The clip-on radio module means it is fully communicative.

Diehl Metering has over 150 years of experience in the development and production of water meters. We offer the technology to suit any of the specific needs of municipal and private water management: velocity flowmeters based upon the single-jet or multi-jet principle, Woltmann large water meters, volume meters and piston flow meters, with extreme nominal sizes and custom-made products also available on request.

Measurement technology for thermal energy

The SHARKY heat/cooling meter also features legendary Diehl Metering ultrasonic technology and is supplied ready for automatic meter reading (AMR) and smart metering with its integrated radio. Flow rate and temperature sensors allow for numerous individual calculations. SHARKY impresses thanks to its precise measurements with long-term stability and extreme durability – as a cooling meter from 5°C or as a heat meter up to 150°C.

Diehl Metering offers an extensive range of solutions for local and district heating, as well as for refrigeration. The ultrasonic meters we develop and produce in-house have been proving themselves for many years in system projects all over the world, even under the most testing of conditions. All Diehl Metering energy meters are equipped with interfaces for communication via radio or M-Bus.

Gas measurement technology

The innovative AERIUS gas meter is an original development from Diehl Metering: the microthermal measuring principle determines the exact standard volume, pressure-independent and temperature-corrected, without deviations. AERIUS is a high-precision system for fair billing that works quietly and requires very little maintenance. AERIUS is also instantly ready for use with automatic meter reading (AMR) and smart metering.

The micro-thermal measuring principle ensures precise measurement results and reliable operation at all times. This process has proven its efficiency in the industry for many years, and now Diehl Metering is also making this technology available for use in the household and commercial sectors.

Electricity measurement technology

The ELICIUS electricity meter is also supplied with smart communication technology – for seamless integration into automatic meter reading (AMR) and smart metering. The precise, secure meter features net parameter recognition, a device clock for establishing billing periods, tamper recognition and numerous other innovative functions.

The ELICIUS is the first electricity meter to make Diehl Metering radio technology available for the electricity sector. ELICIUS also delivers exact reading date values – in monthly breakdowns, for example. Thus ELICIUS provides an objective data basis and conforms to the political, economical and association requirements for consumption transparency and fair billing. ELICIUS is the economical, future-proof solution for smart metering rollout.

YOU'LL FIND US WHEREVER OUR CUSTOMERS ARE. WORLDWIDE.

What individual solution do you need for your region?



Worldwide presence: we manage a network of business units to serve our international markets.

Scandinavia

The Scandinavians are energy efficiency pioneers, and the demand for intelligent networks, data availability and up-to-date data is correspondingly high in these markets. Energy consumption, production and distribution processes require optimisation.

Western Europe

Efficient and responsible treatment of natural resources and energy is key to the Western European markets. The requirements for precision, quality and durability are high. European energy guidelines need to be translated into national legislation.

Eastern Europe

Precise technology with long-term stability is in demand in the Eastern European markets, as are mobile reading and intelligent data transfer. Water losses need to be reduced and the efficiency of maintenance cycles must be increased; distribution and district heating networks must also be expanded.

Russia and "the Stans"

Automatic meter reading (AMR) – both mobile and stationary – is also an important requirement for Russia and the Stans. The focus here is increasingly on energy efficiency and consumption-based billing, and the distribution and district heating networks are being expanded.

North and South America

Intelligent networks are becoming increasingly popular in North America. There is a great deal of interest in remote reading and leakage recognition in Central and South America and the Caribbean. High precision, quality and long-term stability are in demand across all the American markets.

Africa

Intelligent systems safeguard the water supply and combat leakages in South Africa. In order to protect the vital resource of water, the trend in North and Central Africa is shifting towards particularly robust meters that are able to withstand extreme temperatures and sand in the pipes.

Middle East

Fixed network solutions are called for in the Middle Eastern markets as they ensure transparent consumption data with a high level of availability. Robust and precise technology safeguards the valuable drinking water in this region, even at extreme temperatures and if there is air or sand in the pipes.

Asia, Australia

With the growing levels of energy consumption in China, the extreme requirements for measuring technology due to flooding in South East Asia and the need for automatic metering for entire districts in Australia and Oceania, precise solutions with long-term stability and intelligent remote reading are becoming increasingly popular here.

WE ARE DEFINING THE HISTORY OF METERING. SINCE 1862.

How much experience is required in order to implement digitalisation?



As a major player in the industry, Diehl Metering stands for innovative technology and smart metering. But our roots date back to the early years of industrialisation: The Neptun company was founded in Breslau in 1862 – as a foundry and manufacturing plant for water and gas installations. It was here that the world's first Woltmann large water meter was developed and produced in 1895. The company changed its name to Hydrometer in 1912 – and even today, industry experts still consider this name as a sign of high-quality measurement and readout technology.

In 1951, the company headquarters was relocated to Ansbach, then it was gradually modernised and expanded over the years; a modern, large-scale production plant was added in the Thuringian town of Apolda in 1991. The path towards becoming a group of companies was completed in 1998 with the incorporation of the French company Sappel and its subsidiary Mirometr. The Group was systematically expanded in 2001 with the incorporation of the Austrian company Elin Wasserwerkstechnik and the Hungarian company MOM.

From 2003, the Hydrometer Group was managed as an operative holding of the Diehl Group. One of the main aims of the merger was to bring together all the different metering-related expertise under one roof: everything from the development and production of the meters, the development of electronics, system components and software right through to service would take place at the company's own sites.

The company's fusion to create the strong international brand Diehl Metering took place at the turn of the year 2014/15. We have been the fifth corporate division of the Diehl Group alongside Metal, Controls, Defence and Aerosystems since 2010. As a provider of multi-utility solutions and services, we have geared our range of services towards strategic markets – and we are tackling the great challenges the international energy sector is currently facing.



INTO THE FUTURE WITH TRADITION.

Always state of the art with
our innovative technology

Diehl Metering is a corporate division of the Diehl Group. The family business Diehl was founded in 1902 and boasts a stable ownership structure, is financially independent and unites

various high-tech sectors. The Diehl Group comprises the Metal, Controls, Defence, Aviation and Metering corporate divisions.

Diehl Metall produces semi-finished products and forgings made from copper and copper alloys.

Diehl Controls designs, develops and produces mechanical, electro-mechanical and electronic controls for household appliances.

Diehl Defence pools the defence technology activities within the Diehl Group.

Diehl Aviation fits commercial and military aircraft with avionic and cabin systems and functions.

Diehl Metering provides services and supplies meters, systems, software and measuring devices for the intelligent use of water, thermal energy, gas and electricity.

Facts and Figures 2016

Diehl Group
Employees: 16,385
Turnover: € 3.41 billion
Family business since 1902

Diehl Metering GmbH
Employees: 1,661
Turnover: € 292 million

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