

# engage



**NEW STRATEGY**

**INNOVATING FOR LIFE.**  
Iskraemeco's journey to an efficient and sustainable future.

pg. 2

**IN THE SPOTLIGHT**

**SMART LIGHTING MANAGEMENT SYSTEM.** Illuminate your world the smart way.

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# Editorial

## Dear readers.

In today's ever-changing world, we are confronted with constant changes and rapid technological development that have a profound effect on both businesses and individuals. Digital transformation and the global economic decline, driven by escalating inflation, macroeconomic imbalances, and energy shortages, have captured the interest of everyone—individuals, corporate leaders, and policymakers across the globe. In such a complex environment, bold and decisive actions have to be taken.

At Iskraemeco, we are embarking on an exciting new phase of growth and evolution, outlining an ambitious strategy that underscores our commitment to innovation, excellence, and sustainability. We remain committed to the future by establishing a new multi-business unit performance framework and defining our strategic direction to effectively navigate the challenges ahead.

As we envision the future, we continuously reimagine the energy and water industries, develop digital platforms, and explore new opportunities. By expanding our business into four distinct areas—energy, water, e-mobility, and data platforms—we are fully devoted to creating greater value for our customers. With a clear mission and strategy that align with evolving customer expectations and incorporate emerging trends and technologies, we are building a solid foundation to lead the digital transformation and become a leading platform business. Our focus lies in addressing energy, water, and urban challenges while promoting sustainable



living. This pivotal step further strengthens Iskraemeco's commitment to operational excellence and long-term growth, propelling us towards our vision. Through enhancing our energy and water offerings and developing comprehensive solutions for efficient e-mobility within the digital grid ecosystem, we are continuously expanding our commercial reach.

Innovation remains at the core of our growth strategy, enabling us to better serve our customers and community. Collaboration with our esteemed partners has always been fundamental to our achievements, and we remain committed to growing our international footprint and diversifying our business portfolio. Our deep understanding of our customers' needs, coupled with a skilled and capable international team, empowers us to drive progress. While maintaining a strong position in the European energy market, Iskraemeco has also expanded to Africa, the Middle East, India, Southeast Asia, and

Latin America. Despite the challenges, we remain resilient, committed to excellence, and driven to innovate.

As we move forward, we will leverage our unique strengths and the exceptional team of colleagues and partners who enable us to serve our customers and communities with utmost efficiency. We remain resolute about capitalising on growth opportunities and delivering value to our stakeholders. Together, we can take great pride in the accomplishments we have achieved and continue to build a future we can all be proud of. We extend our heartfelt gratitude to every Iskraemeco employee across all markets and to our partners and customers for their unwavering dedication and tireless efforts. It is their commitment to our mission and goals that propels us forward and shapes our actions.

**Emad Ghaly**  
Executive Chairman of the Board of  
Iskraemeco Group

# Innovating for Life.

**Iskraemeco's journey  
to an efficient and  
sustainable future.**

**We have been continuously evolving by building a new multi-business performance framework and determining the strategic direction that will allow us to implement it.**

As a company, we are undergoing significant transformation, establishing four business streams that have been strategically designed to foster growth, deliver innovative products, solutions, and services, and capitalize on opportunities both within our industry and in adjacent markets.

**At Iskraemeco, we are constantly envisioning the future and rethinking the energy and water businesses. We believe in harnessing the power of data and pursuing new opportunities to generate more value for our customers.**

Our well-defined mission and vision support our company strategy and keep us ahead of the curve by incorporating new trends and developing technologies in response to changing customer expectations. We are dedicated to laying a solid foundation to lead through the digital transformation and become one of the most influential and innovative platform company in the industry. Our goal is to tackle energy, water, and city challenges while promoting sustainable living. We believe in operational excellence and follow through with our long-term growth strategies as we strive towards our vision.





## Electricity

Digitalisation, cutting-edge technologies, and new business models are reshaping the energy industry, presenting numerous opportunities. Electricity business stream is focused on providing advanced and innovative solutions for efficient electricity management. With a strong emphasis on sustainability and energy efficiency, we offer smart metering solutions, grid management solutions, and other innovative products and services to help our customers optimise their electricity consumption, reduce their carbon footprint, and empower their end users.



## Digital Platforms

As data becomes the driving force of the modern world, our Digital Platforms business stream is at the forefront of data management innovation. We develop digital platforms that “transform data into knowledge” – empowering our customers to make data-driven decisions to enhance efficiency, performance, and sustainability across various industries. By seamlessly collecting, processing and analysing data using interconnected applications, our customers gain valuable insights into the rapidly evolving behaviour and interactions of end users, allowing them to make informed decisions.



## Water

Water scarcity and management challenges are pressing issues globally, and our Water business stream is dedicated to addressing them with innovative solutions. We offer smart water metering solutions, leak detection systems, operational efficiency monitoring, revenue protection, and other technologies to enable efficient water management, conservation, and sustainability for cities, municipalities, and industries around the world. The Water business stream focuses on leveraging cutting-edge technologies and data-driven approaches to enable efficient, sustainable, and environmentally responsible water management practices.



## eMobility

As the world transitions towards clean transportation, our eMobility business stream is at the forefront of providing cutting-edge charging solutions for electric vehicles (EVs) while ensuring grid stability. We offer a wide range of EV charging stations, management systems, and related services to support the growing demand for e-mobility solutions. Features like demand-side management, load balancing, and grid-friendly charging profiles help utilities and grid operators manage the impact of EV charging on the grid. This enables a seamless integration of EV charging services into the grid infrastructure without causing disruptions or instability in the electricity grid.





# A new era calls for new mission and vision.

Change is inevitable, and as a company, Iskraemeco understands the need to adapt and evolve in order to thrive. At Iskraemeco, we are always innovating and seeking new ways to extend our influence. Innovation is considered the driving force behind our growth, efficiency, and ability to better serve our customers, our community, and address global challenges.

We have developed a clear vision and mission that supports our strategy, responds to shifting customer needs, and keeps us ahead of the curve. Considering new trends and emerging technologies, we will lead through the changes by establishing a solid foundation while pursuing our goals.

With a fresh and distinct mission and vision, Iskraemeco is taking bold steps to become one of the most advanced platform companies, focused on solving energy, water, and city challenges while advancing sustainable living.



## Mission

**We support our customers in mastering their digital transformation journey toward a more sustainable and efficient future.**

- With cutting-edge technology at its core, we integrate all the devices, systems, and services into comprehensive and customized end-to-end solutions that optimize processes, costs, and resource usage.
- We create digital platforms that translate data into powerful insights, and our applications enable utilities and cities to make smart decisions to ensure a better life and future for their businesses and customers.
- We empower our customers and utilities throughout the world to overcome challenges by turning them into new opportunities for efficient energy and water consumption.



## Vision

**To be one of the most innovative digital platform companies in solving energy, water, and city challenges while advancing sustainable living.**

- Using the power of data and the latest technology, we provide digital platform solutions that enable cities, businesses, and individuals across the globe to optimize their energy and water consumption by ensuring safety, reliability, and cybersecurity.
- We act as enablers of green and digital transformations. By leveraging technologies and providing superior services, we enable demand-side flexibility and active market participation to optimize energy and water efficiency.
- Our pursuit of net-zero emissions is ultimately leading to environmental protection activities and securing a better life for future generations.



## Active load control yields considerable benefits

*Tomaž Dostal, Uroš Bizjak, Gregor Rodič, Jure Germovšek and Aleš Glavina*

**The growing adoption of electric vehicles, heat pumps and solar panels is exerting increasing pressure on the electricity grid. This raises important questions about managing these loads efficiently without costly infrastructure upgrades and by engaging users in the process. Can we enhance the management of end-user energy consumption to prevent the grid from entering an undesirable state, thereby reducing consumption peaks and improving load distribution? Moreover, besides benefiting the electricity network provider, do we understand how this approach benefits end-users? Lastly, what additional components are required to ensure flexibility in the low-voltage grid?**

To address these questions, we have developed a conceptual framework that considers two user types: residential (houses) and public (schools). Each category has static loads that cannot be managed and flexible loads that can be remotely controlled. Our framework demonstrates how maximum consumption can be controlled and maintained at desired levels, enabling the normal functioning of installed equipment such as cables, transformers and meters. By involving end-customers, utilising smart meters and leveraging existing equipment within the low-voltage network, we can significantly reduce the impact of solar power plants, electric vehicle chargers and heat pumps on the grid. This localised approach allows for the local operation and maintenance of the network, ensuring optimal power control without significantly affecting end-users' daily routines and lifestyles. Additionally, we aim to showcase that proper standardisation and collaboration among different industrial sectors can lead to a comprehensive, interoperable solution that eliminates the need for additional equipment to steer and control the network.

### Situation today

In the current state of the art, the smart power grid is composed of various components, including sensors, actuators, physical quantity gauges for monitoring the network and its surroundings, information links and management systems. The core operation of the smart grid revolves around monitoring, control, and communication within the energy supply chain, with the goal of enhancing efficiency, reducing energy losses, optimising energy supply and generation, lowering costs and improving reliability.

With technological advancements and an increasing focus on environmental protection, electrification is gaining momentum. The number of electrical and electronic devices has grown significantly, ranging from simple electrical appliances and electronically controlled actuators in various domains of life to telecommunications networks, appliances, and electric heating and cooling systems like heat pumps, electric heating panels, air conditioners, and electric vehicles and their charging stations. This proliferation of installations has resulted in a substantial surge in electricity demand and the complexity of ensuring adequate supply without overwhelming the grid.

In practice, networks are becoming more extensive and diverse, often operating close to their capacity limits, which compromises their stability. Furthermore, the rise of distributed alternative energy sources, such as photovoltaic panels and wind farms, exacerbates this destabilisation by introducing unpredictability into the grid's operation.

Therefore, addressing the challenges posed by increased electrification and the integration of renewable energy sources requires innovative approaches to grid management and control. The development of smarter grid infrastructure, advanced monitoring systems, real-time data analysis and efficient energy management solutions will play a crucial role in ensuring grid stability, reliability, and optimal resource utilisation in this evolving energy landscape.



### Known state of the art

In the present state of the art, modern power grids are increasingly incorporating communication-enabled smart devices. At the consumer level, for instance, smart meters are installed at each location and are connected to a central server and other smart devices within the electrical network through a common communication network. In addition to measuring and recording the overall electricity consumption of individual consumers at that location, smart meters go beyond traditional electric meters by also measuring the real-time power usage of the site, including the combined power consumption of all individual users and any losses. These meters are equipped with processing and storage resources for recording relevant data, implementing algorithms, and establishing communication channels with the Central Communications Network.

While this centralised approach allows modern smart grids to support control, regulation, coordination and balanced operation, the complexity of the entire electricity network has made central control increasingly challenging. Centralised control encounters difficulties in promptly responding to changes in consumption or operation at various levels or branches of the power grid due to the intricacy of the task.

Maintaining a stable operation of the electricity network relies on achieving a balance between electricity generation and consumption, which becomes highly challenging due to the vast number of generators, consumers (demand points) and the overall diversification and complexity of the grid. To address these challenges, innovative approaches that leverage advanced technologies, such as decentralised control systems, real-time data analysis and intelligent algorithms, are being developed to enhance the stability, reliability and efficiency of modern power grids.

### Current solutions

Current solutions for controlling and regulating the power grid aim to achieve a balance between electricity generation and consumption by centrally processing data on various factors, such as electricity generation and consumption, network conditions (e.g. external temperature, wind), grid failures and forecasts of changes in electricity generation. Algorithms are then employed to determine actions such as turning on/off individual consumers, transformer stations, branches of the grid, or electricity generators. Advanced artificial intelligence techniques, including neural networks, machine learning and genetic algorithms, are commonly utilised to control and regulate the electricity grid. These AI processes represent significant advancements in grid management and are made possible by increased processing power, larger storage capacities of central servers, and enhanced

information flow through the communication network. However, the current approach to grid control and regulation relies on a centralised model, where all the state information of the electricity network needs to be known and processed on a central server, typically serving as the data control, collection, distribution and processing centre. This centralised control presents significant challenges due to the complexity of the electricity network, making the grid more susceptible to emergencies, both physical and cyber. These threats can result in infrastructure failures, privacy breaches, malfunctions or service unavailability.

Furthermore, the complexity of the electricity network, combined with sudden changes in electricity consumption or unforeseen incidents, can lead to delays in the regulation and provision of electricity. As a result, the grid may become unreliable in terms of stability and may not operate optimally.

To address these challenges, there is a growing need to explore decentralised approaches that distribute control and regulation capabilities across the grid. By adopting distributed control systems, real-time data analysis, and intelligent algorithms at various levels of the grid, it is possible to enhance the stability, resilience, and efficiency of the electricity network while reducing the reliance on centralised control and mitigating the associated vulnerabilities. These innovative approaches can provide faster response times, improved reliability, and better overall performance for the power grid.

### Active load control

Active load control is a crucial mechanism for achieving dynamic balance between electricity production and consumption across the power grid. Its purpose is to enable automatic and robust control of the electricity network's operation, ensuring that power generation and consumption are efficiently balanced. Furthermore, it allows for adjustments in response to factors such as ambient temperature or the performance of transformers, branches and levels within the electricity network. By doing so, active load control prevents overloading of the grid during peak demand periods, while still providing users with the required power supply.

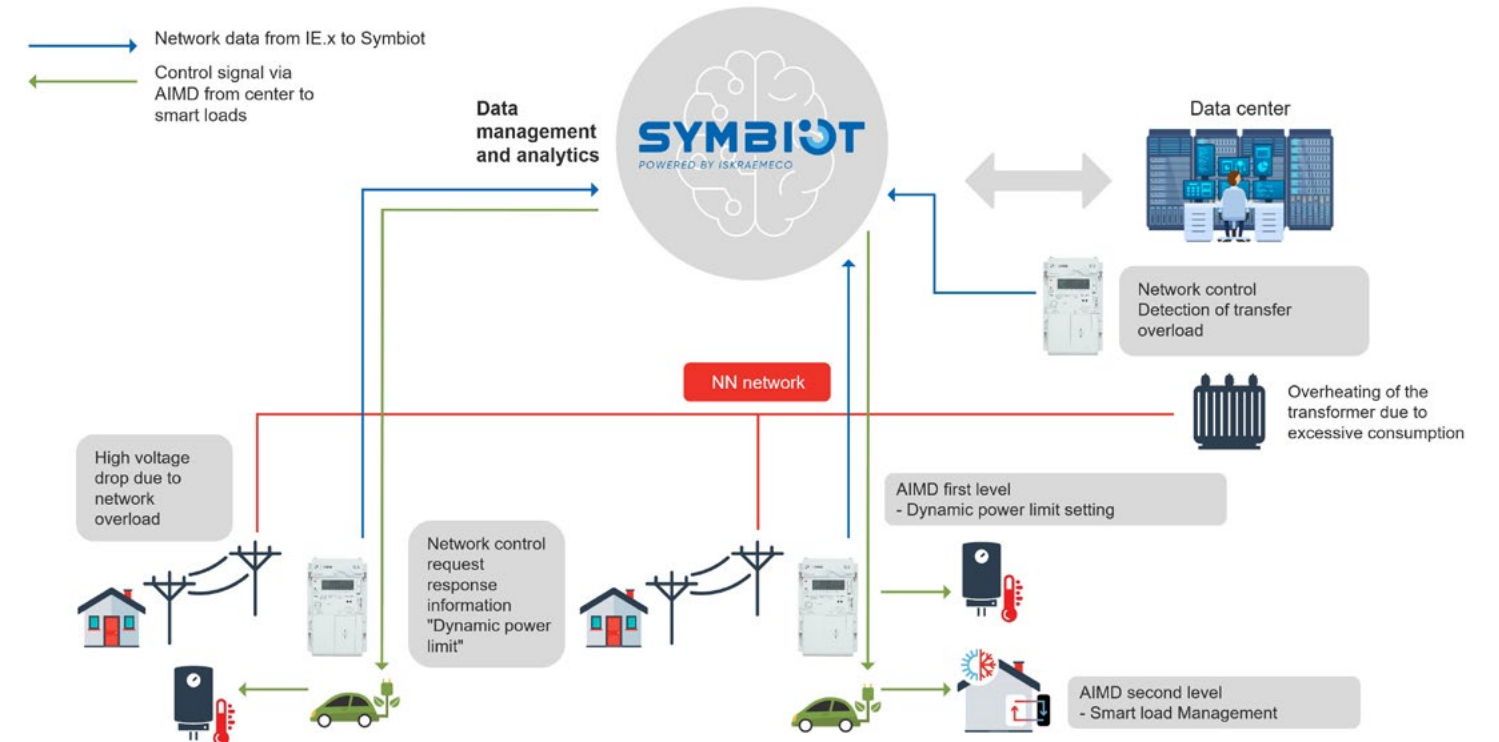
One of the main advantages of active load control is its ability to achieve regulation using relatively simple algorithms that demand minimal processing power. This facilitates implementation at multiple levels, promoting a decentralised approach that reduces the complexity of individual algorithms. As a result, the control and regulation of the electricity network can be achieved in a more stable and responsive manner.

By leveraging active load control, the power grid can dynamically adapt to changing conditions and demands, ensuring a reliable

and efficient supply of electricity. This approach optimises the utilisation of available resources and minimises the risk of grid instability or failures. Furthermore, it enhances the ability to incorporate renewable energy sources and emerging technologies seamlessly into the grid, supporting the transition towards a sustainable and resilient energy infrastructure.

The technical problem is effectively addressed by implementing an Additive Increase Multiplicative Decrease (AIMD) algorithm at multiple levels within the power grid infrastructure. Specifically, the AIMD algorithm is applied at both the individual take-off sites and the low voltage transformer level.

### Display of the steering concept



### Conclusions

The system, apparatus and process are designed to facilitate automatic dynamic control of the electrical grid, ensuring a balance between electricity generation and consumption throughout the network. By avoiding grid overloading while meeting the maximum power demands of users, the system offers significant advantages.

The process utilises simple algorithms that require minimal processing power, enabling implementation at multiple levels in a decentralised manner. This decentralised approach reduces the complexity of individual algorithms and enhances overall system efficiency.

To address the technical challenge, an Additive Increase Multiplicative Decrease (AIMD) algorithm is employed at two crucial levels of the power grid: individual take-off sites and low-voltage transformers. Each AIMD server executes the first part of the algorithm, while each AIMD client executes the second part. This implementation ensures stable and responsive control and regulation of the electrical grid.



## SMART LIGHTING MANAGEMENT SYSTEM - Illuminate your world the smart way

*Tomaž Dostal*

The safety, economy, and quality of life of cities are all significantly impacted by street lighting. However, there are significant connections to the energy used for street lighting, which can account for up to 65 percent of a city's electricity costs and 10 percent of its overall budget, according to the World Bank. Rapid urbanisation will drive up demand for lighting, consequently increasing energy consumption and financial expenditure unless more intelligent solutions are quickly adopted.

The Iskraemeco Smart lighting management system is designed to maximise energy savings and is built for contemporary smart cities. Our intelligent lighting management system provides a cost-effective and reliable lighting control solution for all types of public lighting. Based on a globally patented technology, the system can detect broken luminaires in real-time without requiring a sophisticated and expensive communication infrastructure. Using a cloud-based management system, a smart meter with added EDGE computing capabilities, and standard LED lights, the solution provides by far the most reliable application with a TCO that far outperforms any other solutions currently available on the market. The solution also enables retrofitting the existing luminaire base without the need to replace the bulb. Through a single dashboard, cities can remotely control, assess, and manage the lighting on roads, streets, parks, and open spaces. With our solution, the lighting system will be fully digitised at the lowest TCO on the market. Iskraemeco offers reliable technologies that enable smart street lighting solutions, raising living standards, boosting the economy, and lowering energy use, costs, and CO<sub>2</sub> footprint in urban areas.

In addition to their traditional function of illumination, public lighting systems today offer a wide range of other services thanks to smart lighting technology. Streetlights have evolved into intelligent, connected devices in line with the Internet of Things (IoT) framework. As a result, they are now able to collect and transmit data through smart metering devices, resulting in the creation of smart city lighting.



More energy savings

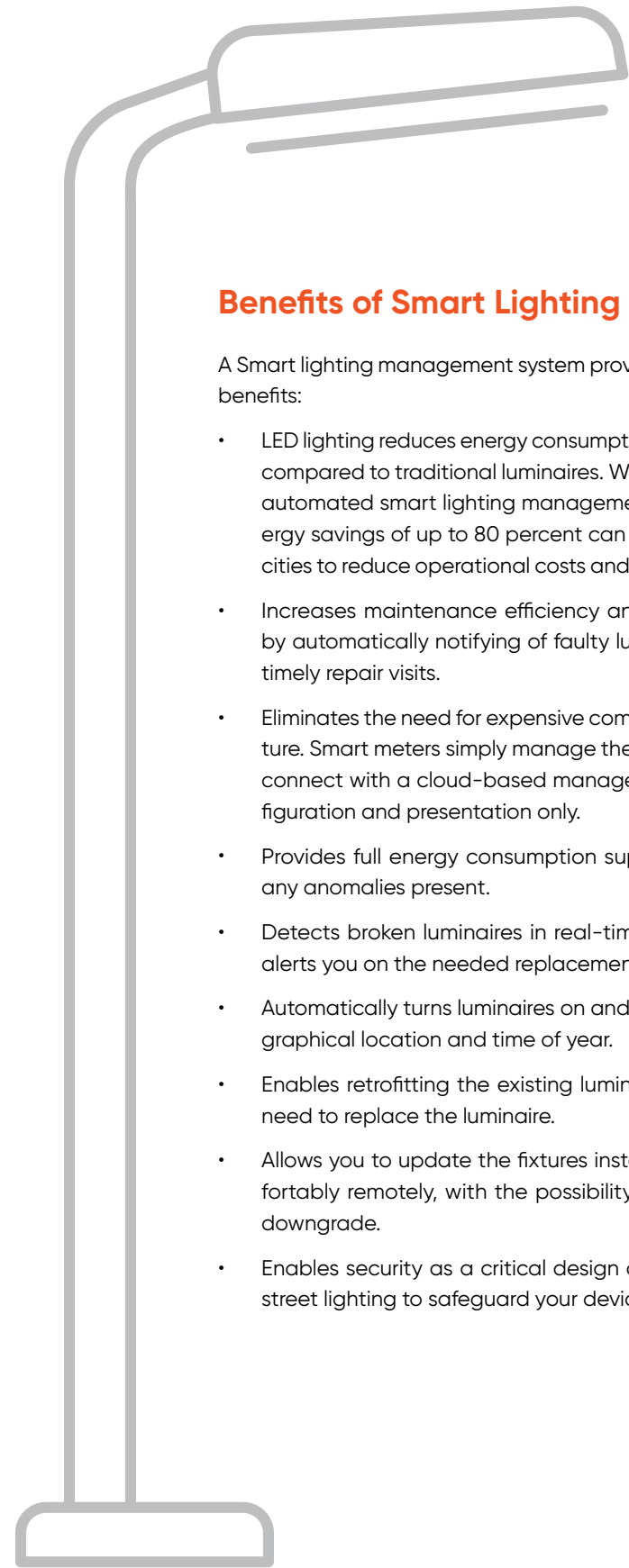


More security



More eco-sustainability

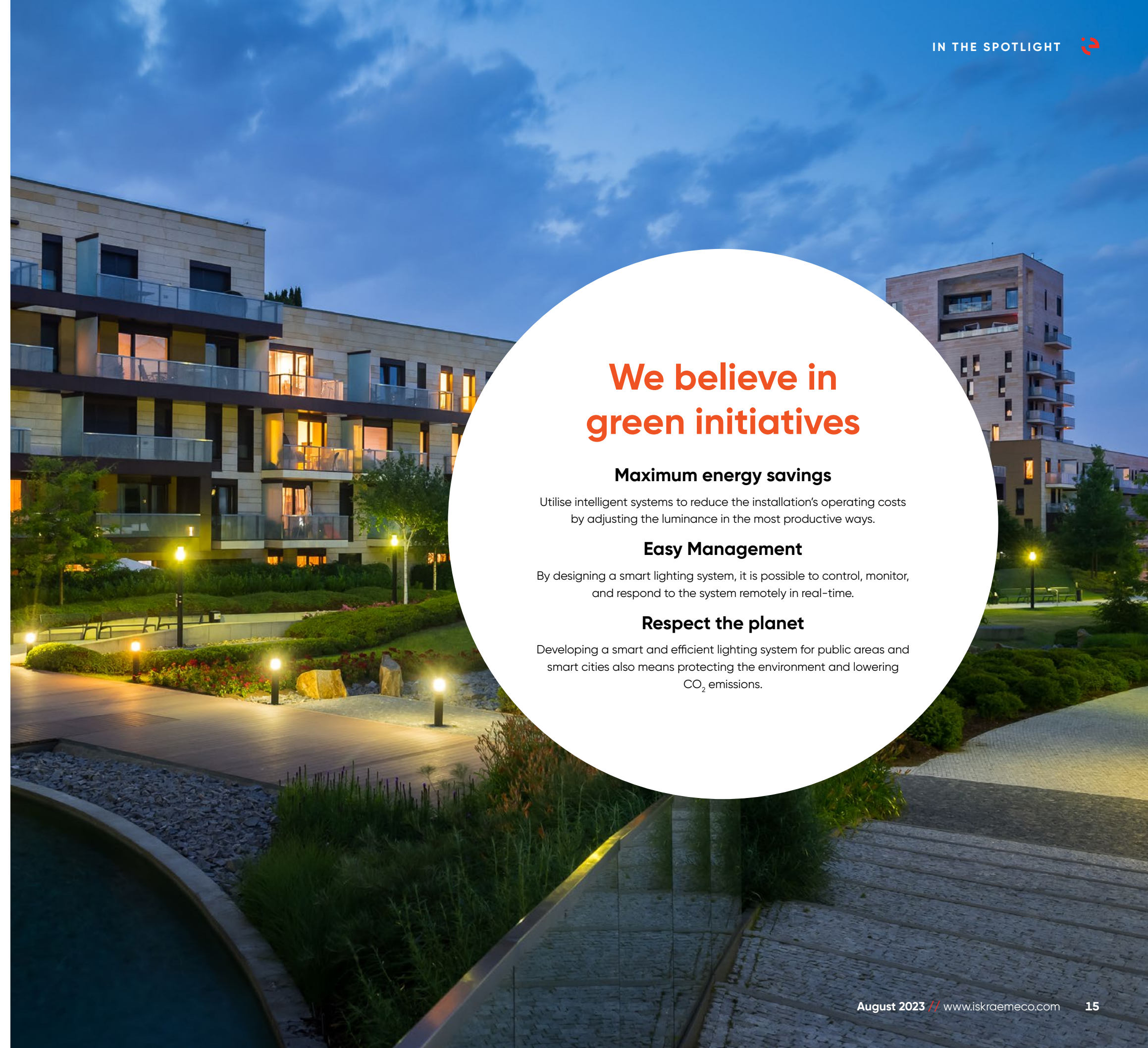




## Benefits of Smart Lighting

A Smart lighting management system provides cities with several benefits:

- LED lighting reduces energy consumption by up to 70 percent compared to traditional luminaires. When enhanced with an automated smart lighting management system, a total energy savings of up to 80 percent can be achieved, allowing cities to reduce operational costs and their carbon footprint.
- Increases maintenance efficiency and resource allocation by automatically notifying of faulty luminaires and ordering timely repair visits.
- Eliminates the need for expensive communication infrastructure. Smart meters simply manage the entire ecosystem and connect with a cloud-based management system for configuration and presentation only.
- Provides full energy consumption supervision and detects any anomalies present.
- Detects broken luminaires in real-time, so that the system alerts you on the needed replacement.
- Automatically turns luminaires on and off according to geographical location and time of year.
- Enables retrofitting the existing luminaire base without the need to replace the luminaire.
- Allows you to update the fixtures installed in the field comfortably remotely, with the possibility of also performing a downgrade.
- Enables security as a critical design consideration in smart street lighting to safeguard your devices.



# We believe in green initiatives

## Maximum energy savings

Utilise intelligent systems to reduce the installation's operating costs by adjusting the luminance in the most productive ways.

## Easy Management

By designing a smart lighting system, it is possible to control, monitor, and respond to the system remotely in real-time.

## Respect the planet

Developing a smart and efficient lighting system for public areas and smart cities also means protecting the environment and lowering CO<sub>2</sub> emissions.



## Revolutionising energy: AMR Gas solutions for a sustainable future

Goran Šnajdar and Nina Merše

**Today, collaboration and innovation are essential to making progress in energy industry. Iskraemeco leads by example, creating gas solutions and a customer-centric approach that delivers customised energy solutions to meet individual needs. By leveraging our extensive resources and expertise, Iskraemeco provides innovative gas solutions to meet the ever-growing demand for sustainable and efficient energy consumption.**

Advanced meter reading gas solutions are revolutionising the way gas utilities collect data and manage their networks. These solutions use advanced technologies like smart meters, IoT sensors, and cloud-based software to automate and streamline the process of gas meter reading.

Solutions also provide greater accuracy, efficiency, and cost-effectiveness. They also enable gas utilities to remotely monitor gas consumption and identify potential issues in real-time, allowing for proactive maintenance and improved customer service.

At Iskraemeco, we recognise that each customer has unique energy needs, and our approach is to deliver personalised and customised solutions tailored to their specific needs. Our strategic partnership with Holosys allows us to draw on a broad range of expertise, resources, and technologies, enabling us to continuously innovate and provide the most advanced energy solutions to our customers. With the increasing demand for sustainable and efficient energy solutions, advanced meter reading gas solutions are becoming an essential tool for gas utilities looking to enhance their operations and meet the evolving needs of their customers.



### Importance of gas consumption monitoring

Gas consumption costs are prone to unpredictable and often sudden increases, especially in the last couple of years. Countries of the European Union have spent more than 280 billion euros so far in attempts to protect consumers from rising gas prices due to these unforeseeable changes.

On average, gas prices today are around 12 times higher than at the beginning of 2021. Therefore, reliable AMR systems are extremely important when it comes to managing gas consumption.

### Gas AMR projects' scale – commercial and industrial consumers

When talking about the number of gas meters connected to one of our systems and the scale of our projects, Gradska plinara Zagreb (Zagreb City Gasworks) is the best example. It is the biggest gas utility in Croatia and one of our biggest clients.

In terms of commercial consumers, the majority are connected to a Holosys fixed network in Zagreb, while the rest of consumers are connected to our NB-IoT system. Furthermore, customers are collecting readouts from installed Holosys' AMR modules using our walk-by/drive-by system.

When it comes to industrial users, 372 of our customers (connected to the city gasworks network) are receiving hourly consumption readouts which are forwarded to the Croatian regulatory agencies once a day. Depending on the customer's needs, industrial AMR systems can be network powered or with installed solar panels.



## Technology behind the solutions

In terms of technology, wireless M-Bus is still dominant in the gas AMR world, but NB-IoT enables less infrastructure, easier maintenance, signal quality ensured by the telecom companies, low implementation costs, readout data security and possible integration with wireless M-Bus systems. When talking about key benefits of our NB-IoT modules over various smart meter solutions, HoloSsys' devices have a longer lifecycle, they are cost-effective and are easy to integrate while the integration process for each gas meter manufacturer is different.

So far, our most utilised and proven device for gas AMR was the HoloSsys wireless M-Bus GasPulsar – a compact radio module used for collecting consumption readouts. Compact design with embedded reed sensor decreases number of necessary components which guarantees easier mounting and maintenance.

We strongly believe that NB-IoT is a technology that represents the present and the future. For this reason, we have developed the HoloSsys NB-IoT GasPulsar – our newest compact radio module that collects consumption readouts from various types of gas meters and sends them via NB-IoT network. The module is compatible with gas meters from different providers.

## Gas AMR solution

When it comes to gas consumption monitoring, we are prepared for every scenario. Whether the gas meters are on the field, are new or there is a retrofit scenario, we have a wide range of solutions. Complementary to our wireless M-Bus solution, we can offer our clients a WALK-BY/DRIVE-BY solution. It consists of a tablet device with pre-installed RadioSphere software for data collection and HoloSsys WDCR – an OMS compatible USB receiver device for the wM-Bus modules. The key benefits of this solution include better readout efficiency and a higher level of employee safety. Due to remote meter reading, the meter reader does not need to approach the gas meter and other gas installations or enter the Ex zone (explosion zone).

When it comes to fixed network systems, we have developed rotor AMR system for gas consumption by combining two types of antennas. The first one is an omnidirectional antenna with a shorter range but constantly receiving the signal. The other is a directional antenna with a long-range but narrow radius. The antennas are mounted on a rotating system, thus allowing both antennas to collect more data together from a larger area than each antenna would do separately. The hardware components used in this solution are HoloSphere central unit, directional antenna, omnidirectional antenna, and rotation system.



## Case study: Rotor AMR system

The most recent customer for whom we have implemented our rotating system is Energo Metan d.o.o. – a natural gas supplier and distribution system operator in the area of Samobor (CRO). The company supplies around consumers with gas through a 190-kilometre pipeline network, among which are customers from the commercial sector. As a part of this project, we have implemented our system at three locations, which cover as many gas meters as possible. Among all the gas connections, the majority were equipped with radio data transmission equipment. The customer wanted to integrate an AMR solution with as little equipment as possible, which would collect data from as many meters as possible.

### Continuous data collections and hourly readout delivery

We chose three locations: a company's silo, a tower and the central building, where it is possible to place antennas at a significant height that cover as large an area as possible. At each location of the rotating system, a central unit is installed that can receive readings from 10,000 meters and two antennas of different polarisations that rotate. The antennas rotate 1 degree within 1 minute, collect data from the gas meter all the time, do readouts every hour and send readouts to the system twice a day.

For optimal operation of the complete system, we decided on two combinations of antennas at locations – either "2 directional antennas" or "1 directional-1 omnidirectional". The entire western part of the town of Samobor is covered by the third location, Klokočevac tower, which is 42 metres high.

### Benefits in a time of gas crisis – better nomination of gas

All readouts go to HoloAMR, our software solution through which the user receives consumption data, as well as many more detailed analyses, depending on the client's needs. HoloAMR is connected to the GIS system from Energo Metan, so it is possible to see which devices have not been read on the geoportal. Based on these readouts, Energo Metan can optimally nominate gas, which today is more important than ever, given the current challenges in the context of the gas crisis. In addition, HoloAMR has the option of automatically sending data to the regulatory agency HROTE (Croatian Energy Market Operator).

The implementation of HoloSsys solution resulted in many benefits for Energo Metan such as covering a large geographical area on a daily basis and the highest quality of gas nomination. Client's goal was connecting 80 percent of gas meters to hourly readouts via a rotary system, and 20 percent to a Walk-by/Drive-by system.

To achieve complete coverage of our client's gas network by our AMR system, HoloSsys' NB-IoT solutions could also be utilised for this remaining 20 percent of gas meters.



HoloSsys is a provider of innovative electronic Internet of Things (IoT) devices and Integrated Control Technology (ICT) solutions. The company's primary focus is on research and development, as well as manufacturing AMR electronic devices and ICT solutions employing cutting-edge communication technologies and trends. Their product line includes a variety of devices ranging from pulse readers through repeaters, receivers, sensors, gateways, and antennas, as well as supporting software and platforms for remote reading of water, gas, electricity, and heat usage.

HoloSsys is an Iskraemeco company.



## SYMBIOT FieldAssist

# The power is in your hands

*Damijan Pristov*

**Iskraemeco Symbiot FieldAssist is a modern and user-friendly solution intended for local meter operations within the Android app. It addresses the entire range of relevant use cases, including data reading, parameterisation, meter commissioning, and even meter firmware upgrades. It now enables Walk-by/Drive-by capabilities for wireless M-Bus meters (water, gas, heat meters) in addition to electricity meters.**

The Symbiot FieldAssist Backend server centrally manages user rights and prepares command files that are automatically transmitted to Android smartphones and tablets. It also ensures work order management and an overview of digitally signed operation logs with geographical location.

Meter readouts and operation logs recorded by the Symbiot FieldAssist app are automatically uploaded to the Backend server and imported into Symbiot or any other Head-End-System. The integration is readily available when utilising the software suite Symbiot. On the level of collected files, third-party Head-End-Systems can be incorporated.

### The Symbiot FieldAssist in a nutshell

- **An easy-to-use utility tool for Android.** It is designed for field technicians and allows them to do meter installs, readouts, and local maintenance jobs.
- **It supports battery-powered wM-Bus meters** (water/heat/gas) and uses the efficient walk-by/drive-by readout method.
- **Work orders support** gives customers a clear picture of everyday tasks. It enables efficient travel between meter locations by utilising Google Maps navigation.
- **The solution utilises two-way communication** with the centre to exchange work orders, commands, operational logs, and collected data online.
- **The solution is highly secure.** It allows for seamless operation with any KMS system while keeping the meter keys hidden. Furthermore, it provides an offline operating mode when no internet connection is available, ensuring that the task is completed under all conditions.

### Solution architecture

The following are the components of the solution:

#### Symbiot FieldAssist Android app

Running on a smartphone or tablet, the Android application enables local meter operations via a USB or Bluetooth optical probe.

#### Symbiot FieldAssist Administrator

A Windows service with an administrator web interface that runs on the customer's premises; it offers centralised management of users and operations for the Symbiot FieldAssist applications.



# Supported meter operations

## Supported operations on electricity meter:

- Read Clock.
- Set Clock.
- Synchronise Clock – syncs the meter clock with the time on an Android device.
- Read Load Profile.
- Read Billing Profile.
- Read Event Log – allows you to read any meter event log using a simple presentation.
- Read Registers – allows for the reading of arbitrary meter registers with easy presentations.
- Execute Command Script – parameterise metres using an arbitrary command script in NCS format.
- Monitoring – enables displaying current measurement readings on the meter on a regular basis. A vector diagram is displayed on industrial metres.
- Meter Firmware Upgrade – upgrade of DLMS based electricity meters.
- Meter Snapshot – a complete meter data reading for further inspection.

## Supported operations on wireless M-Bus meters (water, heat, gas meters):

- Passive reading – reading measurement data for all wireless M-Bus meters within reach (general meter readout mode Walk-by/Drive-by).
- Target reading – reading of measurement values exclusively for meters in the work order (useful for gathering missing measurement data).

## Additional functionalities available in the Symbiot FieldAssist application:

- Use of the Key Management System (KMS) when an online connection is available.
- Work with offline meter keys for locations where the online connectivity to KMS is unavailable.
- Manage work orders using Google Maps navigation.
- A digitally signed operations log with a geographical location and, if optionally, photographic evidence of the action.

# SYMBIOT FieldAssist

The solution supports Iskraemeco and other non-Iskraemeco meters. There is a growing list of supported meters. If a meter is not supported yet, Iskraemeco can integrate it on a project basis.



## End-user benefits

- Support for all Android devices, from simple to robust.
- An easy-to-use and ergonomic user interface.
- Support for cable USB optical probes as well as wireless Bluetooth optical probes.
- DLMS and IEC 1107 electricity meter support.
- Low-level and High-level security support (COSEM Security Suite 0).
- Full range of electricity meter functionalities, including reading, writing, and DLMS meter firmware upgrades, smart meter monitoring and vector diagram.
- Meter reading for water, heat, and gas metres through walk-by/drive-by.
- Centralised operation and user rights management.
- Data is securely exchanged between the phone application and the Centre in real time.
- Assistance in cancelling authorisation if a phone/tablet is lost or stolen.
- HES integration and out-of-the-box Symbiot System integration.
- Full Key Management support (online and offline)
- Built-in work order management, as well as the ability to integrate with third-party Work Force Management systems.
- Localisation support.



## eloT EDGE Compute module

*Tomaž Dostal, Gregor Rodič, Uroš Bizjak, Jure Germovšek and Peter Kobal*

In recent years we have seen the accelerated growth of digital technologies, the Internet of Things (IoT), and the growing demand for smart energy management solutions. The trend toward edge computing, which integrates data processing, high-performance machine learning, and artificial intelligence, has emerged, and stands out. In this context the eloT EDGE Compute Module, a new platform for edge computing in digitalised Internet of Things (IoT) environment, has been developed.

### Edge computing platform in a digitalised IoT environment

A newly developed edge computing platform in a digitalised IoT environment enables the digitalisation of grids and the transition to advanced energy services. It builds on the smart energy meter, which in this case acts as a data source and as an accelerator for advanced energy services. It incorporates powerful machine learning and artificial intelligence applications. It enables external partners to develop applications on an open development and technology platform, fostering the development of an innovation ecosystem within and outside the power engineering domain.

During the development of the platform, we used technology solutions that are already known from other contexts, such as smartphones, but have never been used in the context of smart metering. Existing meter and back-end system functionalities can coexist on the platform with new functionalities and back-end systems.



### We create game-changing innovations on a global scale

The green transition requires smarter and more complex power management. Because of the widespread use and the huge amount of data smart meters generate, they are proving to be an ideal management tool. However, they have been developed primarily to measure energy consumption and are intended for use in electricity distribution systems, which requires them to be metrologically certified, cost-effective, highly reliable and have a long service life. As a result, they are functionally limited and cannot be upgraded for other purposes in the long term (they become obsolete). They are also subject to a highly regulated development cycle that significantly increases the time required to build a new application. In addition, they limit the integration of third-party applications that can add value outside the current scope of the company.

These limitations restrict the applicability of smart meters for smart energy networks and services, which is problematic from a financial perspective given the significant investment in the smart metering system.

The Edge computing platform completely eliminates this problem, allowing meters to be upgraded with an additional EDGE Compute module that enables complex data processing, is easily scalable, and is open to the integration of external partners.

The open development and technology platform facilitates the creation of an innovation ecosystem that enables startups, small and medium-sized businesses, to integrate our solutions and internationalise their businesses.



## eloT EDGE Compute module for the digitalisation of the grid and transition to advanced energy services

Currently, electricity meters are designed for execution of a single application – smart metering, which includes electricity measurement and some additional functions (profile storage, limited monitoring of the power grid, and limited control of external devices). They are also primarily designed for a single end user – the electricity distribution network manager. In the future, meters will have additional applications, they will be used in environments that cannot be predicted today, and most importantly, they will need to be more flexible and have a faster development cycle than is possible today.

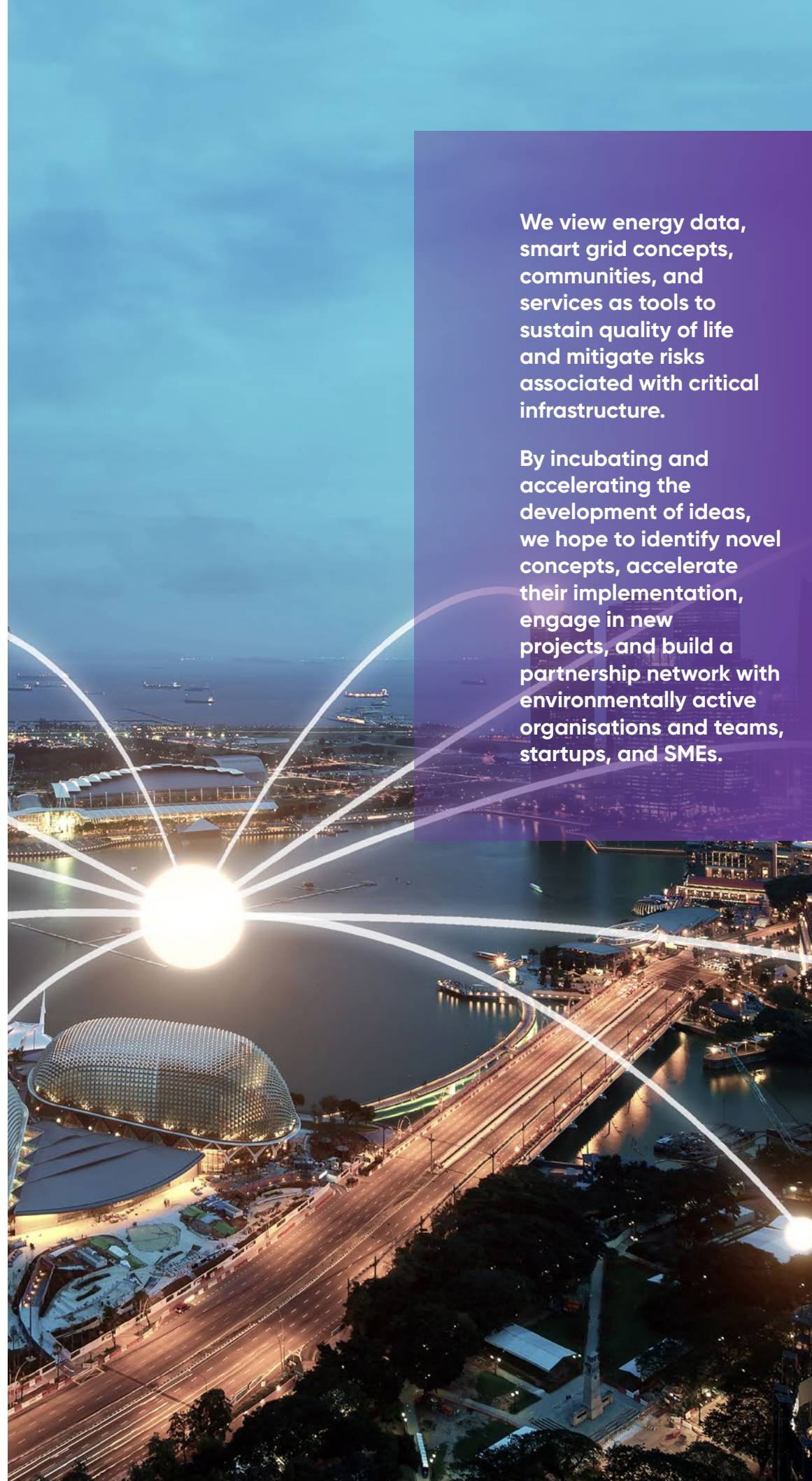
The EDGE Compute platform is a functional upgrade/extension of electricity meters that enables the execution of distributed services between the Cloud and the Edge and the integration of partners into the offering.

It surpasses all existing limitations of meters:

- Enables the execution of complex algorithms for data processing, including machine learning and artificial intelligence.
- Enables the simultaneous and mutually independent and isolated execution of many applications.
- The open development and technology platform enables involvement of external collaborators and implementation of their applications.
- It enables the implementation of services in conjunction with cloud computing.
- Significantly reduces development time and introduces a DevOps methodology.

The development of a specific eloT EDGE compute module (type code AC360-A6) that is intended to replace the existing communication module provides these features. This principle allows for a functionally limited but cost-effective initial implementation of the meters, and when the need to expand functionality arises, the communication module is replaced with an EDGE module (without disconnecting and interrupting meter operation). This allows for a variety of investment scenarios, ranging from a simple initial installation that can be upgraded as needed, to a mixed or full EDGE compute installation. In addition, the EDGE compute functionality can be integrated into an existing meter infrastructure.

**The new edge computing platform was awarded the Silver Award of the Gorenjska Regional Chamber of Commerce and Industry in cooperation with the supporters of INOvativnost, MGT, and SPIRIT Slovenia. On page 103 you can read more about the award.**



**We view energy data, smart grid concepts, communities, and services as tools to sustain quality of life and mitigate risks associated with critical infrastructure.**

**By incubating and accelerating the development of ideas, we hope to identify novel concepts, accelerate their implementation, engage in new projects, and build a partnership network with environmentally active organisations and teams, startups, and SMEs.**

## An innovative solution for a sustainable energy transition

The green transition requires smarter and more complex energy management. Smart meters are proving to be an ideal tool in this regard, as they are universally applicable and provide extensive data. By integrating energy services into our product using the EDGE Compute platform, we have enabled the circular economy. In doing so, we are providing a fundamental component to the concept of smart cities and communities. As the population and infrastructure density increases in urban areas, so does the potential for connected infrastructure such as smart grids. When we combine all of this with the platform, we can achieve a wide range of sustainability objectives. The platform also creates a new market share for services, as it offers the opportunity to create new jobs. These will be of higher quality and have greater added value. They will enable the continuous development of competencies, collaboration with external partners and thus the dissemination of knowledge.

The newly developed platform is a technology that facilitates the green transition and an innovation developed by a multidisciplinary group. Collaboration within the company and with external experts has had a positive impact on motivation and has significantly increased the level of knowledge and expertise in the field of these solutions at the company level. By developing such innovations, employees have a stronger sense of connection and collective belonging. By pursuing a sustainable development strategy and implementing initiatives such as this platform, we are creating a better future for future generations and for our company.

The innovation enables advanced energy services and the transformation of a traditional smart electricity meter into a device that enables smart and environmentally friendly energy consumption. This is achieved by improving the functionality and connectivity of the smart meter so that we do not have to throw it away and buy a new one. This reduces the amount of materials and resources needed to make new devices. The development enables data analysis and integrated calculations. As for the hardware, the development of the new platform is in line with the company's strategy, which means that all the principles of the circular economy have been implemented.

The newly developed platform addresses current issues and has the following implications:

- Integration of services that contribute to the development of networks in a sustainable manner: Data enables the empowerment of end users in the context of energy efficiency and energy efficiency at the network level.
- Energy consumption forecasts: Better forecasts and predictions of consumption and production allow us to identify the gaps that need to be addressed, leading to higher energy efficiency, lower losses and better information for system stakeholders.
- New business models: service and solution orientation, offering a comprehensive solution to the customer and advising on the design of a spectrum of functionalities to help the customer address its particular challenges.

The new platform is being created in line with the company's "Innovating for life" strategy. Innovation is a component of a digital platform that transforms data into actionable ideas and solutions. Our applications enable businesses and cities to make smart decisions that enable businesses and consumers to live better, create a better future and promote sustainable living. Above all, innovation has the primary effect of enabling the company to enter entirely new market segments. Innovation enables the introduction of high value-added services and the transition from a product-oriented to a service-oriented society.



# The prepaid and smart water meter revolution

Abdallah Draz and Nina Merše

**Water meters have transcended their traditional role of simply measuring water consumption. The emergence of smart prepaid water meters has revolutionised the industry, providing advantages to both consumers and utilities.**

By combining accurate metering capabilities with convenient and secure payment systems, these advanced meters streamline water management, promote water conservation, and improve operational efficiency.

The introduction of smart prepaid water meters have proven to be groundbreaking in the metering solution market. Combining accurate metering, secure contactless payment, and advanced features such as remote monitoring and leak detection, these meters offer numerous benefits to both consumers and utility companies. With their ability to promote water conservation, streamline billing processes, and improve operational efficiency, smart prepaid water meters are paving the way for a more sustainable and digitally advanced future in water industry.

**Iskraemeco's smart meters are always ready to meet smart metering requirements with the help of our experienced experts.**

With the Iskraemeco prepaid smart water meter, it is easier for utilities to collect more water charges, control users' arrears, detect and prevent tampering attempts, and also improve users' water consumption behaviour. The smart prepayment water meter not only measures water flow, but also uses wired/wireless communication to connect to local or wide area networks, enabling remote location monitoring and infrastructure maintenance through leak detection. Smart water metering systems also enable automatic billing and customer management, including detection and protection against tampering attempts. Smart water meters are battery operated and offer a maximum battery life of ten years, significantly reducing maintenance costs.

Iskraemeco's prepaid AMI/AMR water meter solution makes it more efficient for utilities to remotely read and monitor meter data for all types of users and even for challenging field conditions.

Below we have provided a simple comparison between local prepayment and smart prepayment technology available in our smart prepayment solution. The solution helps utilities to reduce operational cost and save a lot of time and money and definitely water.

Features Comparison	Prepayment water meter solution	Smart prepayment solution
<b>Prepayment technology</b>	<b>Local prepaid</b> After the user recharges successfully, credit is stored in the smart card.	<b>Support local prepaid and remote prepaid</b> After the user successfully recharges, the system automatically delivers credit to the customer water meter.
<b>Data Reading</b>	<b>On-site manual meter reading</b> Data can be obtained when customers purchase water. Data may be missing, miswritten, inaccurate, slow data statistics.	<b>Automatically collecting data</b> The system is collecting items and the collection period can be set and delivered remotely. The data is accurate. The system can automatically re-collect the missing data.
<b>Real time monitoring and query</b>	<b>Unable to monitor and query</b> Can not monitor and query user water meter status and data in real time.	<b>Able to monitor and query</b> The system can monitor and query the user's water meter status and information in real time.
<b>Remote diagnosis and valve control</b>	<b>Field control</b> Can not monitor and query user water meter status and data in real time.	<b>Remote diagnosis and valve control</b> Issues are removed remotely.
<b>Data analysis and statistics</b>	<b>Cannot effectively support analysis and data statistics</b> Slow data upload update, missing, error record, etc.	<b>Effectively support data analysis and statistics</b> Complete data, timely update, accurate understanding of water trend analysis and ring analysis, understanding future water demand.
<b>Operation and maintenance costs</b>	<b>High operation and maintenance cost</b> Manual meter reading and on-site maintenance costs are high. Data needs to be uploading system. Smart card customer routine maintenance. High overall management and operation costs.	<b>Low operation and maintenance cost</b> Low meter reading costs, maintenance costs and management costs.



# Iskraemeco's journey in the Egyptian market: Navigating success in a dynamic landscape



In recent years, Egypt has made significant strides in modernising its water management systems to address the challenges of growing water demand, limited resources, and financial constraints. As part of these efforts, the country has embraced the adoption of prepayment water metering, recognising its numerous advantages in achieving efficient water consumption, revenue collection, and conservation.

As Egypt continues to face water-related challenges, prepayment water metering stands as a valuable solution that empowers both utility companies and consumers to achieve efficient and responsible water management practices.

In 2017, the Egyptian market began offering prepayment water services. Prior to the introduction of a prepayment solution, mechanical water meters were used. However, due to difficulties in collecting the bills, it was decided to implement a prepayment solution.

Since 2016, Iskraemeco has built a factory that includes the entire process of manufacturing and assembling water meters. Now we have a factory with an annual capacity of 700,000 meters. In addition to an automated testing process and a strict quality process, Lean Six Sigma manufacturing methodology is used to reduce the number of defective products. Since 2021, we have been supplying our customers with water meters in various sizes (DN20 – DN25 – DN40) and have installed a total of 400,000 water meters.

Now, we are able to integrate the meters with various software providers (governmental and private), using different integration methods. Iskraemeco can offer its customers a comprehensive prepayment management solution that starts with the collection of the meters from the customer's warehouse and ends with on-site operation and maintenance. In addition to supplying the product, we also provide comprehensive training at our facility to ensure that all utility technicians know how to professionally manage the water meters.

## Unlocking efficiency: Iskraemeco's solutions for NRW reduction in utilities and governments

Smart prepayment water meters provide several advantages, including improved operations and cost management to promoting energy and water efficiency. By reducing losses, improving revenue collection, and enhancing security measures, these meters enable utilities and governments to effectively manage resources, optimise investments, and ensure a sustainable and reliable water supply for all.

1. To offer total solution from meter to telecom to vending, utility companies can efficiently collect data and streamline operations to manage costs.
2. To increase energy/water efficiency through greater transparency of metering information as well as encouraging the consumers to change their consumption behaviour, and to reduce the consumption at peak load.
3. To decrease the cost by reducing electricity/water losses and the costs of meter reading and through a better identification of the required investments.
4. With prepaid management, utilities and governments can effectively control and collect recharge fees as well as all kinds of surcharge taxes such as sewage treatment fee, which could help to improve cash flow.
5. With Anti-Tamper functions of smart meters, utilities and governments can easily detect and prevent tampering attempts on meters and the metering system.
6. Utilities and governments can use these solutions to cut down on energy/water waste and quickly identify issues in an energy/water distribution network.



## Advanced pay solution

*Domenico Lamparelli*

**As electric vehicles become more popular globally, the infrastructure of public charging stations is expanding to meet the demands of electric vehicle owners. Charging Point Operators (CPOs) and eMobility Service Providers (EMSP) are responsible for managing the infrastructure and back-end systems of the public charging networks. As it often happens, the incorporation of standardized technical protocols has typically been a relatively straightforward process. However, adopting common business procedures has proven to be more complex.**

eRoaming platforms are services that connect electric vehicle (EV) drivers to charging stations and networks in different companies and countries. These platforms act as intermediaries between Charging Point Operators (CPOs) and eMobility Service Providers (EMSPs) to provide a seamless charging experience for EV drivers. Through eRoaming platforms such as Hubeject, Greenlots, and ChargePoint, drivers can easily search, access, and pay for charging across multiple networks with a single customer account.

The platforms typically use open communication protocols to facilitate the exchange of data between different charging networks and enable interoperability, making it easier for EV drivers to travel longer distances and reduce battery range anxiety. While it is a commonly accepted theory that eRoaming platforms are the future, in practice the limited implementation of such systems and services means that drivers of electric vehicles still have to contend with varying payment processes from different service providers.

If you embark on a long journey spanning multiple European countries and need to recharge your electric vehicle multiple times along the way, it is highly likely that you will have to download multiple apps and sign up for different charging services. In some cases, you may even have to purchase a payment card and manage multiple virtual wallets, which can add to the complexity. The situation can become even more challenging if you come from a non-EU country and your SIM card doesn't support data roaming, in which case downloading the apps and subscribing to the services can become increasingly difficult.



**What solution could Iskraemeco and its subsidiary GL Charge provide to make the payment process more convenient for electric vehicle drivers?**

The PAY solution aims to provide electric vehicle drivers with a seamless payment and refuelling experience that is comparable, if not superior, to what drivers of traditional internal combustion engine cars experience when refuelling and paying.

Our solution can be explained through four easy-to-understand steps: PLUG – TAP – CHARGE – DRIVE. Essentially, the driver plugs in their electric vehicle charger, taps their credit card on the display, starts the charging process, and once it's finished, they can continue their journey. As simple as that!

This solution has the advantage that it only requires a regular credit card – no other special payment method is needed. At the beginning of the charging session, a small amount is set aside to cover the charging fee. If the amount to be paid is less than the reserved amount, the difference is returned to the credit card. If the reserved credit is not enough to cover the fee, the system automatically tops it up. Once the charging session is over the driver can scan a barcode to download the receipt.

The PAY solution consists of two key components: the PAY version of the GL Charge PublicBOX and the Payment module of the SPECTRE backend system. The Payment module is typically delivered as a service (SaaS) and it supervises the charging process, calculates the charging fees as well as interfaces the billing systems implementing the fiscalisation logic, which can vary country by country.

**The road to convenience starts here.**

**Experience the future of electric vehicle charging with innovative PAY solution. Say goodbye to complicated payment processes and hello to simplicity and convenience. Plug in, tap your credit card, charge up, and hit the road with ease. No special cards, no hassle. It's time to embrace a seamless and enjoyable charging experience that brings the future to your fingertips. Join us as we revolutionize the meaning of eMobility.**



# Smart infrastructure solution transforming Zambia's grid

Emanuel Pomian and Nina Merše

**Zambia is modernising its grid by integrating Iskraemeco's smart infrastructure solutions into its existing environment. The utility ZESCO Limited will undergo one of the largest implementations valued at 37 million dollars. The contract includes meters intended for residential, industrial, and commercial environment with LTE/4G, Ethernet, PLC communication, communication modules, and the Symbiot software suite. Iskraemeco will be responsible for providing an end-to-end solution including field deployment of the meters and three years of operation and maintenance before handing over the infrastructure to ZESCO.**

In 2017, Iskraemeco successfully deployed an AMI pilot project which included 500 smart meters. The Meter Data Management System (MDMS) and Head-End-System (HES) capabilities of the system, communication type deployed, back-end system integration capabilities, system security level capabilities, infrastructure capabilities, and meter types capabilities deployed, as well as daily and billing success rate among others, were assessed.

ZESCO Limited is a vertically integrated state-owned utility, which generates, transmits, distributes, and supplies electricity in Zambia. It is a public utility sole shareholder with more than one million metering points. ZESCO is committed to improving the quality of life for all by providing safe and reliable electricity. To achieve this, ZESCO has a plan for modernising smart grid and focuses on a phased deployment approach, targeting multi-layered milestones aligned with its priorities. At this stage, the utility's focus is Advanced Metering Infrastructure (AMI) and required systems integration and peak load management (PLM) for C&I meters including associated control centre hardware/software. Iskraemeco's solution meets utility requirements, increases energy efficiency, and enables significant energy savings based on remote meter reading and demand response.



*"This is a project that reflects successful global collaboration within the Iskraemeco group. The contract between ZESCO and Iskraemeco was achieved through close cooperation with Elsewedy Electric's office in Zambia, the efforts of its regional manager, the technical and commercial expertise of colleagues from Iskraemeco in Egypt and Kranj, and the overall support from Elsewedy International. Only further collaboration among all parties can lead to a successful implementation next year, which we are all looking forward to."*

**Andrej Kosi**  
Head of Project  
Management Office  
at Iskraemeco



### A solution for modernising the electricity environment

The solution combines Iskraemeco's meters for C&I+G segment MT880 and residential smart meters AM550, both with hybrid communication LTE/4G, Ethernet and PLC, communication modules AC750 and the Symbiot software suite that will be integrated into the ZESCO backend system.

Iskraemeco will also provide a customer web portal and mobile application. In order to conduct meter inspection two laboratories will be constructed. Additionally, an IT infrastructure consisting of a data server and networking equipment will be supplied. With the presence of the ZESCO team, we successfully completed the FAT for the first batch of MT880 meters.

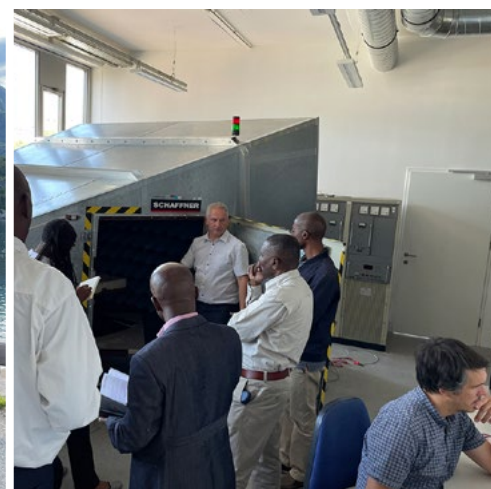
We offered our customer a comprehensive portfolio of services to support every step of the project, including site survey and deployment, system implementation and commissioning, meter configuration and basic troubleshooting training, comprehensive training for software suite Symbiot, testing and commissioning services, remote support and software configuration, SLA, and system maintenance.



### Customer benefits for building strong relationships

Iskraemeco's Advanced Metering Infrastructure (AMI) system enables the collection, storage, and processing of data on electrical energy at all levels of consumption, transmission, and generation. The modular design of the system enables the use of various metering and communication devices. The metering software records alarms about incidents, and the system can be configured to automatically take action and notify users about the incidents.

A wealth of experience in the field of system solutions led to the development of the user-friendly Symbiot software suite, which enables easy data collection, processing, monitoring, on-demand meter reading, parameter setting, alarming, pre-payment, and meter point management (MPM). The Iskraemeco Head-End-System (HES) is not only state of the art, but also supports easy integration with billing and CRM systems using the standardised Web Services interfaces and import/export services.





# Most Innovative Energy & Water Management Solutions Provider 2023

Nina Merše

Iskraemeco Middle East FZE has been awarded the “Most Innovative Energy & Water Management Solutions Provider” in the Middle East and Africa (MEA) region at the highly regarded 2023 UAE Business Awards. This distinguished recognition reflects Iskraemeco’s commitment to pushing the boundaries of innovation in the field and its relentless pursuit of excellence.

Iskraemeco, known for its cutting-edge technology, and forward-thinking approach, has consistently demonstrated its ability to develop and deliver comprehensive solutions that address the ever-evolving challenges in the energy and water sectors. With a strong focus on sustainability and efficiency, Iskraemeco has been at the forefront of revolutionising how energy and water are managed, setting new industry standards along the way. Iskraemeco’s future-oriented perspective, coupled with its extensive expertise and extensive portfolio of advanced technologies, has enabled it to revolutionise how energy and water resources are monitored, controlled, and optimised.

The 2023 UAE Business Awards, renowned for identifying and honouring outstanding organisations within the United Arab Emirates, have recognised Iskraemeco for its remarkable contributions to the industry. This prestigious award is a testament to Iskraemeco’s dedication to continuous innovation, as well as its unwavering commitment to providing sustainable solutions that drive positive impact for both businesses and communities.







**With the region experiencing rapid urbanisation and economic growth, there is an increasing demand for advanced energy and water management solutions to support sustainable development. At this occasion we conducted an interview with**

**Mahmoud Mouaz,**  
**Managing Director of Iskraemeco Middle East FZE and Vice President Sales Europe & Middle East, who provided valuable insights into the future outlook of the Middle East region and shed light on the transformative potential of the market in the coming years.**

**The recognition of receiving this award is undoubtedly a significant accomplishment for Iskraemeco Middle East FZE. Could you please share your thoughts on this achievement?**

We are tremendously proud of this recognition. It is a testament to the dedication, hard work, and innovative spirit of our entire team. Iskraemeco develops intelligent digital solutions and services for the energy and water sectors by combining our extensive experience and industry expertise with cutting-edge IoT and AI technologies. By understanding the power of data, we help our customers embrace digital transformation and the associated opportunities for grid management and optimisation. Together with utilities and cities, we create sustainable grids that are a key enabler for the green transformation. This award will

serve as a catalyst for our future endeavours. It inspires us to continue our pursuit of innovation, to explore new horizons, and to contribute even more significantly to the sustainable development of the region.

**When initiating a new project or working with a new customer, what strategies do you employ to ensure a successful outcome?**

To ensure the success of a new project, it is important to establish clear goals, conduct a thorough analysis, develop a detailed project plan, communicate effectively with stakeholders, monitor progress, assemble a skilled team, leverage technology, focus on customer needs, and foster a positive team culture based on trust, respect, and collaboration. Equally important, we work with stakeholders to understand their requirements and tailor our solution to their

needs, implement effective project management practices, ensure data accuracy and security, conduct testing and verification, and provide ongoing support.

**Could you provide us with an overview of the current situation in the UAE, particularly in the region where your business is located? What are the prevailing challenges and opportunities?**

The UAE has set ambitious targets for smart meter deployment to improve energy efficiency and enhance customer experience, despite facing regulatory and financial challenges. This presents significant opportunities for companies in the smart metering industry, given the growing demand for advanced metering infrastructure and related services. While challenges

such as regulatory barriers and upfront investment exist, the government has been addressing these issues by implementing new regulations and providing financial support to utilities. The country's strategic location, stable political climate, and business-friendly environment make it an attractive market for companies looking to expand their operations in the region.

**From your perspective, what are the primary benefits of operating in the UAE? Are there any specific areas of growth that position it as an ideal business hub for Iskraemeco?**

The UAE offers several advantages for companies operating in the energy and water efficiency spaces. The government has prioritised sustainability and made significant investments in renewable energy and energy-efficient infrastructure. The country's strategic location at the crossroads of Europe, Asia, and Africa also makes it an attractive hub for businesses looking to reach global markets. In addition, the UAE offers a business-friendly environment with a relatively low tax burden and simplified regulatory procedures. The country has implemented policies and initiatives to promote entrepreneurship, innovation, and knowledge-based industries, which can benefit companies working in the energy and water efficiency space.

**What sets Iskraemeco Middle East FZE apart from competitors? How do you distinguish yourself and position your company as the preferred choice for customers?**

Iskraemeco's smart metering solutions are designed to be flexible, scalable, and

future-proof, enabling utilities to adapt to changing energy market conditions and customer needs. The company offers a range of advanced features, such as two-way communication, real-time data analytics, and remote firmware updates, which can help utilities improve their operational efficiency and enhance customer satisfaction.

In addition, Iskraemeco places a strong emphasis on sustainability and environmental responsibility. The company's smart meters are designed to reduce energy waste, promote the adoption of renewable energy, and enable carbon reduction initiatives.

Overall, Iskraemeco's extensive experience in the industry, flexible and future-proof solutions, advanced features, and commitment to sustainability may differentiate it from other companies in the smart metering industry and provide a compelling value proposition for utilities and end-users.

**Describe the culture within your company and the initiatives you undertake to nurture and enhance it. What attributes do you seek when attracting new employees, and how do these qualities contribute to their integration into your organisation?**

Iskraemeco's culture promotes diversity, collaboration, and alignment with global subsidiaries. They foster a welcoming and inclusive work environment and encourage open communication and idea sharing. They work closely with subsidiaries to achieve shared goals and invest in employee development. Iskraemeco also celebrates success and recognises achievements to reinforce their culture and values. These efforts make them an attractive partner for clients.

**What does the future hold for the company? Are there any forthcoming plans or projects you would like to share with us?**

Regarding our company's future, it's essential to keep in mind that the smart electricity meter industry is rapidly evolving due to technological advancements and increased demand for smart energy management solutions. To remain competitive and relevant, our company is constantly innovating and adapting to new industry trends and challenges. This could include investing in R&D to create more advanced and user-friendly smart meter products, as well as exploring new markets and partnerships to grow the business.

We have a strategic roadmap that outlines our company's goals, objectives, and strategies for achieving them in terms of future plans and projects. Integrating artificial intelligence and machine learning algorithms into smart meter products to improve energy efficiency and reduce costs, developing mobile apps or web-based platforms to provide users with real-time energy consumption data, or partnering with utility companies to offer innovative pricing models and incentive programmes for customers are some potential projects or initiatives that our firm may take into account.

As for what 2023 has in store for our firm, it's challenging to predict with certainty what the future will bring. However, we have to remain agile and adaptable to changing market conditions and customer needs. We will focus on identifying and addressing any operational or logistical challenges, expanding customer bases, and building strategic partnerships with key players in the industry. Furthermore, we attend and participate in conferences and events to stay up-to-date on emerging trends and technologies in the smart meter industry.



# Iskraemeco factory in Egypt certified to serve customers in MEA

Tamer Saleh and Smilja Dolgan Paternoster

**Iskraemeco Egypt, one of the subsidiaries of Iskraemeco Group, has been at the forefront of delivering robust metering solutions to customers in the region for over 15 years. Since its establishment in 2008, the company has been following international standards to deliver quality products, solutions, and services to its customers. With a contemporary manufacturing facility located in the heart of the biggest industrial city in Egypt, the company has been able to meet the ever-increasing demand for its products and services.**

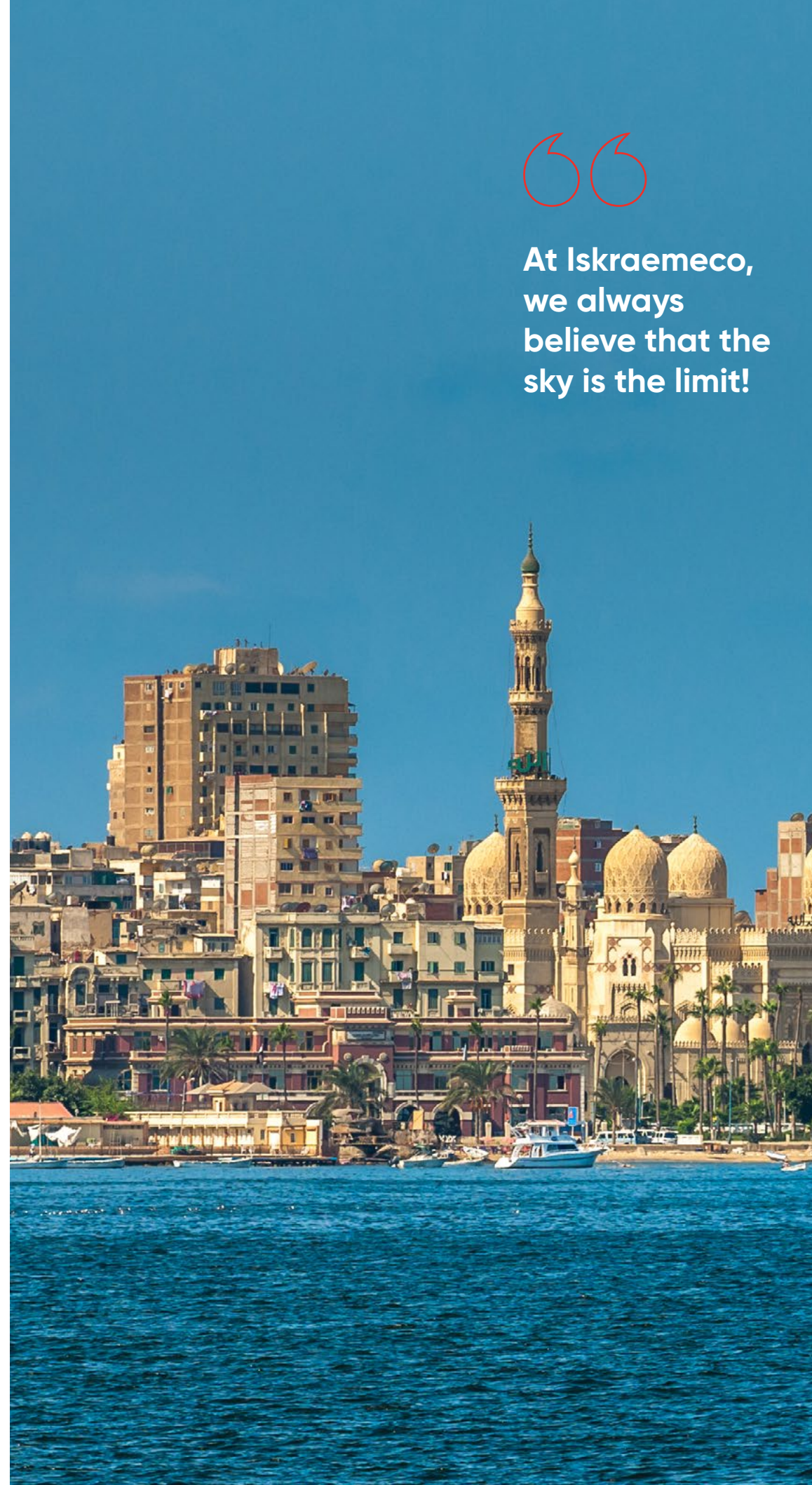
One of the key factors that has contributed to the success of Iskraemeco Egypt is its ability to merge European quality and standards with Egyptian brainpower and manpower. This has helped the company deliver world-class solutions to its customers while remaining competitive in the market. The company has been recognised for its commitment to quality with several certifications, including ISO 9001 in 2009, ISO 17025, and MID module B+D from MIRS in 2011, ISO 14001 and OHSAS 18001 in 2012, IRAM approval in 2019, ISO 27001:2013 in 2021, MID module H1 from SIQ in 2022, and PTB approval in 2022.

In 2019, Iskraemeco Egypt increased its production capacity with the introduction of its second production line to meet the growing demand in the market. The company has set an ambitious goal to double its production capacity again by 2024 to cater to the increasing demand for its products and services. The company's philosophy of quality first is reflected in its production facilities, which have a unified technology, supply chain, quality, and production equipment and standards. This ensures that all Iskraemeco products are built to the same standards, regardless of the production facility location.

The company's commitment to quality has also been recognised by international markets, with Iskraemeco Egypt being approved for export to many markets worldwide, including Germany, the Netherlands, Argentina, Oman, and the United Arab Emirates, with additional markets anticipated to be added this year.



**At Iskraemeco, we always believe that the sky is the limit!**



Exporting from Egypt to the Middle East and Africa was a strategic move for Iskraemeco to expand its operations and tap into the growing markets in the region. Egypt's geographic location in close proximity to many countries in the Middle East and Africa provides a competitive advantage when it comes to providing logistic services. This is especially important in today's fast-paced business environment where speed and efficiency are critical. Moreover, Egypt's free trade agreements with other countries in the region, such as the Greater Arab Free Trade Area (GAFTA) and the Common Market for Eastern and Southern Africa (COMESA), have helped to reduce or eliminate tariffs and other trade barriers, making it easier for Iskraemeco to export its products to these markets. In addition, many countries in the Middle East and Africa are experiencing rapid economic growth, which presents a wealth of opportunities for Iskraemeco to expand its customer base and increase its market share. By leveraging its expertise and reputation for delivering high-quality products, Iskraemeco is well-positioned to capitalise on these opportunities and achieve sustainable growth in the region.

The partnership between Iskraemeco Egypt and Iskraemeco Middle East has been a driving force in expanding Iskraemeco's reach and securing new business opportunities, enabling us to become a trusted supplier of quality products in the region. In the Middle East, with Iskraemeco Middle East's established reputation as a reliable supplier of quality products and their expertise in navigating the complex local market, they have provided invaluable support to Iskraemeco Egypt which in turn, has demonstrated their commitment to delivering high-quality products that meet international standards and have successfully obtained approvals from different customers in Oman and the United Arab Emirates.

The collaboration between Iskraemeco Egypt and Iskraemeco Middle East has been essential in identifying potential customers, building strong relationships, and facilitating the approval process. The MEA office of Iskraemeco have extensive knowledge and experience of the region, enabling them to navigate the regulatory landscape and provide the necessary resources and networks to obtain the required certifications and approvals for exporting products to MEA countries. Moreover, having a shared language between Iskraemeco Egypt and Iskraemeco Middle East has significantly facilitated communication and enhanced collaboration. This linguistic unity has enabled us to seamlessly exchange information, share expertise, and coordinate efforts with ease, ultimately leading to increased efficiency and productivity in our operations.

Through this successful collaboration, Iskraemeco Egypt and Iskraemeco Middle East have effectively met the growing demand for high-quality metering solutions in the Middle East. Iskraemeco Egypt's expanding production capacity and dedication to innovation ensure that they will continue to play a vital role in the growth and development of Iskraemeco's presence in the region. The collaboration has allowed Iskraemeco to leverage the strengths of both entities, resulting in a successful and mutually beneficial partnership.

Such accomplishments and collaboration are not only attributed to our unwavering commitment to excellence but also to our strong collaborative ethos. By fostering partnerships and engaging in fruitful collaborations between all Iskraemeco Group and with key stakeholders, we have been able to leverage collective knowledge and expertise, resulting in synergistic endeavors that yield remarkable outcomes. This collaborative approach further strengthens Iskraemeco Group's ability to address complex challenges, identify novel opportunities, and deliver tailor-made solutions that precisely meet the unique requirements of its diverse customer base.



# Meeting customer's smart meter demands and expanding production capacity in Malaysia

Kanith Boonthrapong and Mateja Kuralt

**Iskraemeco in Malaysia has successfully fulfilled the manufacturing and delivery of ME100-V2 single-phase smart meters to Tenaga Nasional Berhad (TNB) for the first contract within the designated timeframe, meeting the expectations of quality and efficiency. The partnership with TNB has proven to be successful, with Iskraemeco overcoming initial challenges and delivering enhanced solutions that align with TNB's requirements.**



## The partnership so far

Iskraemeco faced challenges upon re-entering the market mid-last year. However, since then, significant improvements have been made. Initially, we had a meeting with the TNB representative to discuss their expectations for the project and implementation process. These expectations included on-time delivery, good quality, and team responsiveness. After multiple alignments and efforts Iskraemeco has successfully delivered enhanced energy meters and solutions that fully met the customers' requirements.

The TNB representative expressed satisfaction with Iskraemeco's performance and highlighted the advantages of working with a reputable European company. Iskraemeco's presence and expertise have established reliability and trust in our smart energy meter offerings, receiving positive feedback from TNB employees who recognize the benefits of grid modernization, improved data availability, and the potential for expanded capabilities.

TNB has also shown interest in effective and accurate metering devices that can seamlessly integrate with smart grid platforms. They envision incorporating features such as peer-to-peer trading, demand response, and enhanced customer services into their operations. To achieve these goals, TNB actively seeks valuable guidance from esteemed industry leaders like Iskraemeco, who are considered among the selected few that TNB relies on for expert advice and specialized expertise.

Looking ahead, TNB is actively searching for a new advanced metering infrastructure (AMI) network, with a specific focus on radio frequency (RF) technology. Their aim is to replace the existing system by 2025. Currently, they are exploring new use cases to maximize the available data from the smart meter program, including meter-to-cash, network telemetry, load forecasting, quality of service, customer engagement, and demand response.

## Project growth and partnership enhancement

As a testament to our success, Iskraemeco in Malaysia has received an offer letter for the supply of ME100-V2 single-phase smart meters, which signifies a significant step forward in our partnership. This offer further strengthens our collaboration while we eagerly await the award of a new contract from TNB's significant tender. This variation order, though not large in quantity, demonstrates Iskraemeco's achievement in fulfilling the previous contract's delivery requirements.

Additionally, TNB has initiated a significant tender process for the supply of single-phase and three-phase smart meters with RF communication, as part of their objective to install 9.2 million units by 2026 for the third phase of the TNB AMI project. Iskraemeco in Malaysia holds a crucial position as a key supplier for this project, and we anticipate the first delivery to commence in July 2023.

To meet the high demand from TNB, Iskraemeco in Malaysia is planning to increase its production capacity. Investments in equipment and facility improvements are in progress to produce at least 20,000 single-phase meters per month. Additionally, investments in equipment and machines will be made for the production of three-phase smart meters with a capacity of 10,000 units per month.

The partnership between Iskraemeco in Malaysia and TNB has proven successful in meeting customer demands for smart meters and delivering quality solutions. Our commitment to addressing TNB's requirements and our reputation as a reliable European company have solidified the partnership's foundation. With plans to expand production capacity and actively participate in TNB's ambitious AMI project, we are well-positioned to continue our growth and contribute to the modernization of Malaysia's energy landscape.



# NEOM: Redefining the future of urban living – where sustainability meets smart technology

Andrej Kosi and Nina Merše



NEOM is a visionary project that is set to redefine the future of urban living. The possibilities offered by NEOM are truly exhilarating as innovation, sustainability and prosperity come together to create a new model for modern living. As the project unfolds, Iskraemeco is proud to be part of this transformative journey with our innovative solutions.



## A vision that combines sustainability and economic progress

Although the NEOM is often referred to as a smart city, it is more accurately described as a region that will include numerous cities, resorts, and other developments. Located on the shores of the Red Sea in northwestern Saudi Arabia, NEOM is a living laboratory – a place where entrepreneurship and innovation will chart the course for this new future.

The project is driven by a vision to achieve an exceptional quality of life, thriving businesses, and a reinvention of conservation practices in line with Saudi Vision 2030. NEOM is a key component of this vision, serving as a catalyst for economic diversification and sustainable development, and Iskraemeco is poised to contribute to this vision. It embodies a mindset that breaks free from outdated economic and environmental constraints that limit progress in other parts of the world.





**Innovation at the heart of the project**

One of the most enticing aspects of NEOM is its commitment to innovation. The region will serve as a base for cutting-edge technologies and bold ideas. From advanced transportation systems to renewable energy solutions, NEOM will showcase the future of urban infrastructure.

**The balance between development and environmental protection**

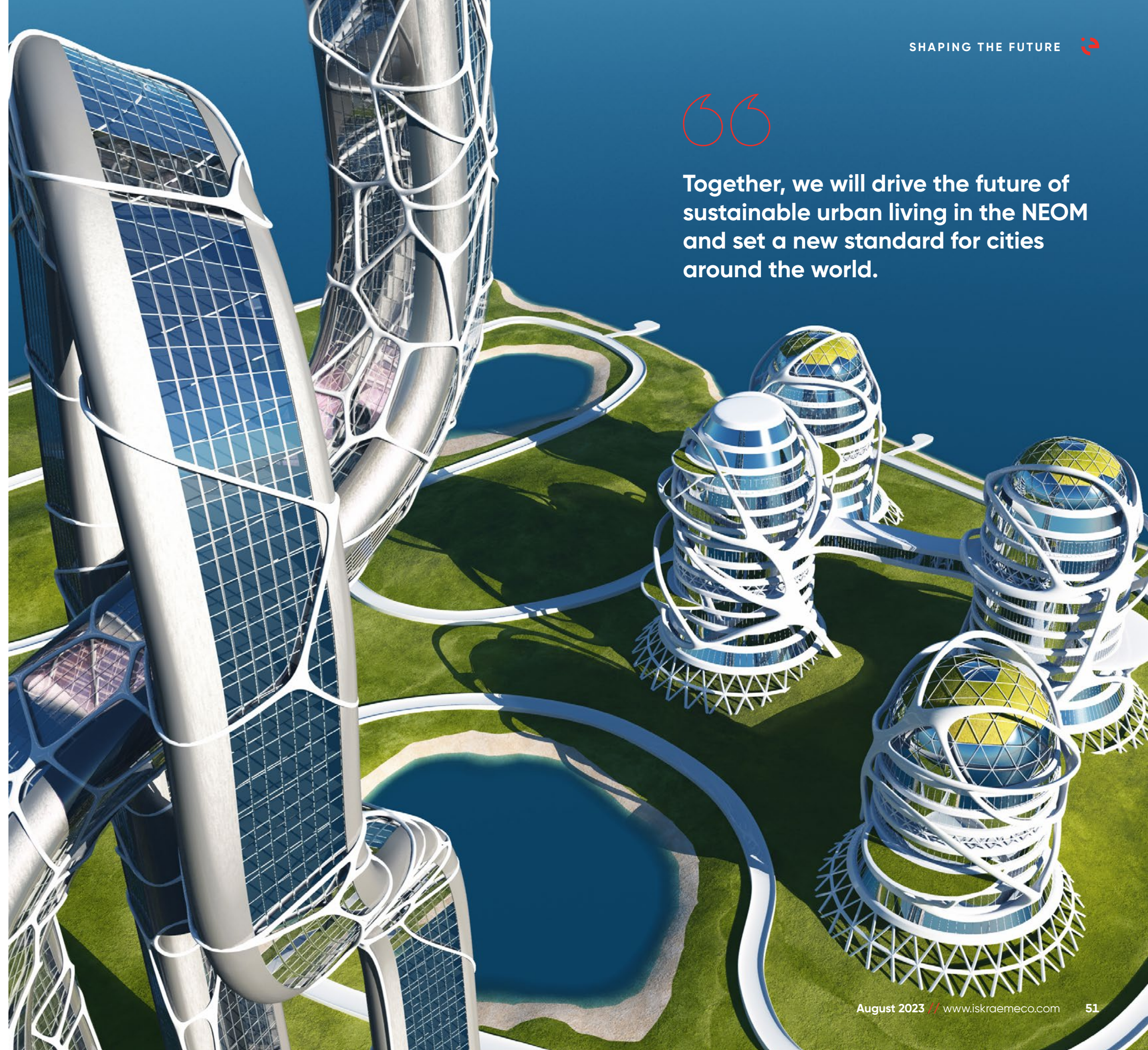
NEOM also promises a thriving business environment and aims to be a pioneer in sustainable practices. The project envisions a balance between urban development and conservation. NEOM planners are committed to minimising the environmental footprint and maximising the use of renewable resources. Iskraemeco's smart metering solutions will enable precise measurement and monitoring of energy consumption, contributing to efficient use of resources. Together, we will present innovative approaches to waste management, water conservation and environmental preservation.

**Iskraemeco solutions for sustainable urban infrastructure**

Our recognition by NEOM management led us to be invited to an extraordinary and impressive event in Berlin, where NEOM's top management presented their vision, mission and implementation plan for their historic project. By implementing advanced metering infrastructure and leveraging smart grid technologies, Iskraemeco will enable NEOM to optimise energy consumption, reduce carbon emissions, and create a truly smart energy ecosystem.

Iskraemeco's smart metering solutions will play a critical role in shaping the future of urban infrastructure. Smart meters enable efficient energy management, provide consumers with real-time data, and facilitate the integration of renewable energy sources. Our expertise in smart metering will help NEOM realise the full potential of advanced energy management systems.

Iskraemeco is honoured to be part of this groundbreaking project and committed to driving sustainable development through innovative smart metering solutions.



Together, we will drive the future of sustainable urban living in the NEOM and set a new standard for cities around the world.



# Enhancing energy efficiency and reliability in Burundi

Karim Amer and Nina Merše

**Regideso, the leading public company in Burundi responsible for the production and distribution of water and electricity, has taken a significant step toward modernising its services with the vision of its general manager, Dr. Ir Major Jean Albert Manigomba. In response to the need to address technical inefficiencies, financial challenges, and the growing demand for improved energy efficiency, Regideso has formed a valuable partnership with Iskraemeco.**

With Iskraemeco's STS prepayment solution and smart meter technology, REGIDESO is now looking to improve operational efficiency, increase revenue, and provide better service to customers across the country. In light of the challenges REGIDESO has had with collecting payments through its current system, Iskraemeco's STS prepayment solution is an important development. This innovative solution allows consumers to efficiently manage their electricity consumption. STS prepayment solutions integrated with 4G communication technology ensure secure and convenient payment options, and allow users to monitor and control their energy consumption in real time.

## Advanced solution prepared for future requirements

Iskraemeco's collaboration with the utility brings several benefits that will positively impact utility operations and customer satisfaction. Prompt delivery terms ensure that the project is implemented efficiently and within the agreed timeframe. Iskraemeco's comprehensive training programmes will equip Regideso's staff with the necessary skills and knowledge to effectively manage the new system. In addition, the after-sales service offering guarantees ongoing support and maintenance to ensure smooth operation and a seamless transition for customers.

A key advantage of the solution is its ability to detect manipulation or fraudulent activity. Regideso can now efficiently detect instances of meter tampering or unauthorised usage, safeguarding the utility's revenue stream and ensuring fair billing practices. With these fraud detection capabilities, utilities can focus on improving service quality and expanding their customer base while relying on the integrity of their billing systems.

By reducing electricity losses through investments in fraud detection equipment and the introduction of prepaid meters for all consumers, Regideso also aims to minimise unpaid bills and improve financial profitability. In addition, the introduction of Iskraemeco's technology sets the stage for future advances in energy efficiency policy, device promotion, and the development of a supportive legal and institutional framework.



In the future, the solution can be upgraded with MT880 smart meters with 4G modules integrated directly into the meters. This innovative approach enables seamless communication between customers and the utility, resulting in improved reading accuracy and streamlined operations. With the introduction of Iskraemeco's smart meter technology, Regideso can lay the foundation for a smarter and more efficient grid system that will benefit both the utility and its customers.

Regideso's collaboration with Iskraemeco is an important milestone on the road to transforming the water and power sector in Burundi. By implementing Iskraemeco's prepayment solutions, Regideso is able to improve operational efficiency, increase revenue streams, and improve service quality. This partnership not only benefits Regideso, but also empowers consumers to effectively monitor and manage their energy consumption. With a shared vision to promote energy efficiency, Regideso and Iskraemeco are paving the way for a better future in Burundi.

**STS prepayment meters are ME516 & MT516 multifunction meters that comply with STS and DLMS/COSEM protocols. The customer purchases energy in the form of tokens, which are entered locally via the built-in keypad on the meter through split Customer Interface Unit (CIU) or remotely via the head-end system (HES). The internal relay automatically turns off when the credit is used up. The meters are wall-mounted meters that can be coupled with a separate customer interface unit (CIU) at the customer's premises.**



# The evolving metering industry in Latin America: Iskraemeco's customer-centric approach

Luciano Gonzalez and Nina Merše

**In today's rapidly evolving metering industry landscape, the Latin American region (LATAM) has seen remarkable developments. In the wake of rapid urbanisation and growing energy demand, customers across the region are experiencing a shift from traditional meters to smart metering solutions. New, advanced technologies are enabling real-time monitoring, data analytics and remote management, empowering customers to make informed decisions about their energy consumption.**

As governments and regulators push modernisation initiatives, utilities are also looking to upgrade their metering infrastructure. Smart metering adoption in the LATAM region is gaining momentum, driven by regulatory frameworks, cost savings, and environmental benefits. Governments and regulators are introducing new policies and standards to promote efficient energy management. These regulations often mandate the installation of advanced metering infrastructure (AMI) and require utilities to provide accurate and timely data to their customers. Iskraemeco understands the importance of complying with these regulations and works closely with utilities to develop and implement solutions that meet evolving regulations.

Iskraemeco recognises this growing demand and is committed to providing state-of-the-art smart metering solutions that enhance the customer experience. We have a long history of innovation and a strong focus on sustainable solutions. We continuously invest in research and development to create smart metering technologies that meet industry trends and customer needs. Our solutions include advanced features such as real-time data analysis, remote communication capabilities and cybersecurity features. We also place a strong emphasis on environmental protection by providing solutions that promote energy efficiency and support the transition to renewable energy sources. While the metering industry is rapidly changing in Latin America, Iskraemeco stands out as a customer-focused player that offers advanced, secure and customised metering solutions. Iskraemeco focuses on technological advancement, energy efficiency, regulatory compliance and customer satisfaction. In doing so, the company aims to drive the growth of the metering industry while empowering its customers to optimise their energy consumption and make informed decisions.



## Iskraemeco's positioning and growth strategy in the LATAM market

1. **Customer-centric approach:** Iskraemeco places great emphasis on customer satisfaction and strives to understand the specific needs and challenges of its customers in Latin America. Through active dialogue and gathering customer feedback, we tailor our measurement solutions to specific requirements, ensuring seamless integration and maximum benefit for our customers.
2. **Local support and expertise:** Iskraemeco understands the importance of local presence and support in the LATAM region. Through strategic partnerships and collaborations with local companies, we aim to build a strong foundation and provide our customers with reliable technical support, training and maintenance services. This localised approach enables us to deliver tailored solutions and respond promptly to customer requests and issues.
3. **Innovation and future readiness:** Iskraemeco consistently invests in research and development to stay ahead of market trends and new technologies. By fostering a culture of innovation, Iskraemeco ensures that its metering solutions are future-proof, adaptable to evolving customer needs, and compatible with upcoming industry standards.

When it comes to smart grids on a global scale, Latin America is still in the early stages. However, there are several initiatives and ongoing implementations in the region that serve as examples for the coming future and accelerate progress. Our business partners in the area, which include agents, distributors, companies and highly skilled professionals, have extensive technical knowledge and exceptional business acumen. They play a critical role in enhancing every business opportunity we undertake, forming the cornerstone of our value proposition.





## Unveiling key insights and country-specific trends in the LATAM market

The future of the Latin American meter market is promising, with smart meters and IoT technologies playing a critical role in the transformation.



**Brazil:** Brazil has seen the largest deployment of smart meters in Latin America to date. The country's national electricity regulator, ANEEL, has mandated the installation of smart meters for all consumers by 2024. Brazilian utilities actively deployed smart meters to improve energy efficiency, reduce losses, and enable better demand management.



**Mexico:** Mexico has also made progress in introducing smart meters. The state-owned utility Comisión Federal de Electricidad (CFE) has launched an extensive smart grid program called "Sistema de Medición Inteligente" (Intelligent Metering System) to install smart meters throughout the country. However, due to financial constraints, there have been some delays and challenges with this program.



**Uruguay:** UTE, the national state-owned utility in the country, has been installing a special version of smart meters based on the ANTEL communications infrastructure for more than five years now. The country is close to completing its full development and could potentially launch a new round, this time based on IoT technologies.



**Paraguay:** ANDE and CLYFSA in particular are making progress towards smart metering. CLYFSA has 100% of the meters from the Iskraemeco portfolio and a SEP2W system that will soon migrate to Symbiot and integrate several thousand AM550s into its distribution network. Great opportunities are expected in Paraguay.



**Chile:** Chile has implemented smart metering initiatives, primarily due to the country's open energy market and the need for accurate metering, as defined in the "Anexo Técnico" initiative. By the end of 2025, most residential and commercial customers in Chile are expected to be equipped with smart meters.



**Argentina:** The deployment of smart meters in Argentina was mainly focused on certain regions and urban areas. The government wanted to promote the use of smart meters to reduce energy theft and improve billing accuracy. Iskraemeco is located in Argentina to support all regional actions and opportunities.



**Colombia:** Colombia has launched a pilot programme for the deployment of smart meters, primarily targeting commercial and industrial customers. The aim was to assess the benefits of smart meters and develop regulations for their wider rollout.



**Other Countries:** In some other Latin American countries, such as Peru, Ecuador and Costa Rica, there have been small-scale smart meter initiatives and pilots testing the benefits of advanced metering systems (AMI).

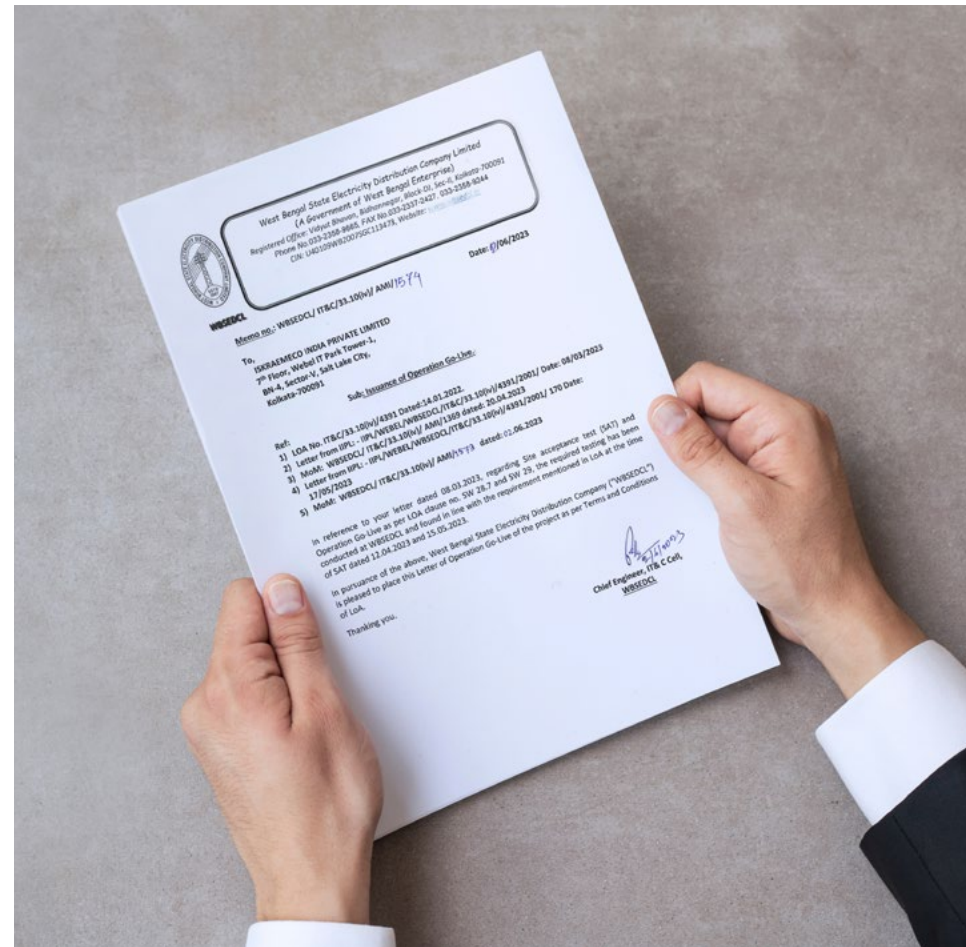
Iskraemeco's continuous innovation, customer-centric approach, and commitment to sustainability position us as a key player in this evolving landscape. As the market expands and adopts digital solutions, Iskraemeco remains committed to delivering reliable, efficient and environmentally conscious metering solutions that meet the dynamic needs of utilities and contribute to a sustainable energy future in Latin America.



# Iskraemeco Powers Ahead: Deliveries soar for Symbiot solution deployment project with WBSEDCL in India

Madan Mohan Chakraborty

Last year, Iskraemeco announced the signing of a significant contract worth \$28 million with West Bengal State Electricity Distribution Company Limited (WBSEDCL) in India. The contract includes the deployment of Iskraemeco's Symbiot solution and represents an important milestone for the company in the Indian market.



The collaboration between Iskraemeco and WBSEDCL began last year when Iskraemeco India received its first major order from WBSEDCL, one of India's leading DISCOMs. The first order included the supply of three-phase and single-phase smart meters, as well as a 4G cellular communication system that can fall back to 2G when needed. In addition, Iskraemeco is responsible for the supply of a head-end system as well as installation and commissioning.

The rollout of the Symbiot solution began earlier this year and has progressed at an impressive pace. In June 2023, WBSEDCL issued the go-live certificate, signifying the successful implementation of the project. More than one third of smart meters have been installed and WBSEDCL has consistently achieved a Service Level Agreement (SLA) of 98%, reflecting the reliability and effectiveness of Iskraemeco's solution.

This project is categorised as an operating cost initiative (OPEX) and includes 246,000 smart meters. Iskraemeco intends to complete the entire rollout by the end of 2023 to ensure a fast and seamless transition for WBSEDCL and its customers.

This collaboration with WBSEDCL not only represents a significant achievement for Iskraemeco, but also underscores the growing importance of smart metering solutions in the energy sector in the Indian market. With the global shift towards sustainable energy and

efficient consumption, smart meters play a pivotal role in accurate metering, real-time monitoring and effective management of energy resources.

In addition, the successful deployment of Iskraemeco's Symbiot solution at WBSEDCL positions the company for further growth opportunities. WBSEDCL has expressed its intention to expand its smart metering infrastructure by registering a need for an additional 4 million meters. Iskraemeco is actively working to secure this additional order which, if successful, will be one of the largest smart meter installations in the world.

The importance of this project goes beyond its scale. By implementing smart meters on such a large scale, WBSEDCL aims to improve its operational efficiency, reduce energy losses, and provide consumers with valuable insights into their energy consumption patterns. The deployment of Iskraemeco's Symbiot solution will enable WBSEDCL to provide more accurate billing, identify and resolve problems immediately, and encourage its customers to save energy.

Iskraemeco's successful collaboration with WBSEDCL is a testament to the company's commitment to delivering innovative, reliable and future-proof smart metering solutions. With its cutting-edge technology and proven track record, Iskraemeco is poised to make a lasting impact on the global energy landscape and contribute to a more sustainable future.



# Transforming Austria's electricity distribution networks: An important milestone achieved in the digitalisation project

Anja Babič and Matija Korošec



Wiener Netze, the largest combined network operator in Austria, is making impressive progress in its efforts to digitalise its power grid with the support of consortium partner, Iskraemeco, a leading provider of smart meter solutions. The project has recently achieved a significant milestone, with half of the 1.6 million smart meters now installed. This achievement brings them closer to the objective of transitioning to digital electricity meters by the end of 2024, in compliance with the EU mandate requiring at least 80 percent of electricity meters to be converted to digital meters by that time. In Austria, the number is even higher – Austrian network providers must convert at least 95 percent of their meters by then.

Through the adoption of smart meters, Wiener Netze is taking a major step towards building a more efficient, reliable and sustainable energy system, which benefits both the company and its customers. The smart meters will enable greater flexibility and control, allowing for real-time monitoring of electricity usage for customers, identifying energy-saving opportunities, and enabling more accurate billing. The project is a testament to Wiener Netze's commitment to innovation and its dedication to providing top-quality services to its customers.



We had a privilege of speaking with **Johannes Geist**, programme manager at Wiener Netze. During our conversation, we had the opportunity to delve deeper into the project, shedding additional light on its complexities and significance.

**By the end of 2024, electricity grid operators in Austria must ensure that at least 95 percent of meters are upgraded to smart meters. Can you assess where things stand with the digital transformation?**

2023 got off to a pretty good start in terms of installed meters – by mid-2023 we will have installed more than 1,000,000 meters. This means that we will reach the 95 percent target on time by the end of 2024. Depending on the area we operate in, the biggest obstacles are usually customers not being at their residence when our teams arrive to install the new meters. 2024 will be a very interesting year for us as we try to reach all the customers who were not on site during our first installation attempt.

**That is an interesting challenge that you pointed out. How are you going to overcome it?**

First of all, we are currently analysing where we have some or a higher percentage of people who are not at their home address at the time of the planned installation. Depending on the results of the analysis, we will decide whether we need to adjust our communication with customers. Every customer in Austria receives two letters, one with the most important information about the project and one with the date of the planned installation. We may have

to change something in this direction, and perhaps a campaign informing customers that we are almost finished with the conversion could increase customer engagement. Given the current high energy prices, we have already seen much greater engagement from customers with smart meters.

**That is probably one of the main reasons why they are more willing to support the transition. Are there any other obstacles that you are encountering?**

Currently, many things are happening at once. For example, we are in the middle of our digitalisation project and we have already had new regulatory requirements in terms of energy communities, customer information and data exchange. We have to adapt to the new requirements, which requires a lot of planning and also changes, because something you did not plan two months ago now plays an important role.

We have also found that some customer installations are not up to date. So that's something that the customer has to fix before we can install the meters.

**That is also quite a challenge – are there any financial subsidies to encourage customers to do that?**

The digitisation of the metering itself is free of charge for the customer. Let us take an

example: We have a very old system whose meter is installed on a wooden panel. As long as there are no dangerous elements, such as copper cables hanging out, we replace the meter. However, we often find that the contacts where we installed the meters are a little burned. That usually means that the screw was not turned in 100% correctly or something else happened. In that regard, the customer has to fix their installation because it's on their property. There are indirect tasks that the customer has to do, but there is no cost for the customer for the meter replacement.

**Are there any specifics on the Austrian smart meter market in connection with digitisation, and are there also characteristics that are now affecting this project?**

There is a joke told in Vienna. When you drive out of the city on the highway, you see a sign that says Vienna is different. And this is true not only for Vienna, but for Austria in general. Austrian smart metering is strongly characterised by the fact that customers have the final say. That means we also have a lot of customer interaction with the smart meter itself. With the standard method or standard parameterisation of a meter, we measure quarterly hour and daily energy consumption. However, only the daily energy consumption is transmitted to us. Whereas the quarterly hour data stays on the meter itself for 60 days.



The customer can also opt-in, which is the Austrian way for 15-minute intervals. But the customer can also opt-out of using the smart meter features, which also opt-out of data collection at the meter itself. That's just a very specific part of the requirements. We also have the activation and deactivation of many display functions, and this is particularly important in terms of data protection. Customers who have the device located in a place with other customers cannot see past readings, and have to voluntarily enable the display so they can review them. Those are probably the two most striking use cases we have in Austria. But there are many more.

**Can you perhaps estimate what percentage of users decide against using the digital functions of their smart meters?**

We have the exact data and we know that the number of these users is decreasing. We are currently below 2% of all installed meters where an opt-out was chosen. It used to be about 2.9%, but in the current situation people are more aware of their energy consumption and therefore want to better understand what they are consuming.

**It is encouraging to see the transformation taking place and customers understanding the benefits smart meters can have for them. With more than half of the meters already installed as part of the project, what is the feedback you are getting from customers, what other benefits do they see – besides the consumption control?**

Customers who have solar power on their roofs are the ones who see the greatest benefit in smart meter use. They usually opt

for 15-minute intervals and are happy that they do not have to buy a separate digital meter and really know what has been fed into the grid, what they have consumed and so on. Something that has really kicked-off in Austria is energy balancing. Every government entity has to audit all energy use, not just electricity use, but gas, heating, cooling, everything. In the past, they usually did that by going to the meter, writing down the meter reading, and then evaluating it in some tool. And we have had quite a few requests for an interface where we can share smart meter data.

We also had an interesting request from developers who are working on an EU funded project and need to measure all the energy during the construction process. How much energy was used for creation of concrete, how much energy they used during construction, how much gas they used and so on. It was an interesting discussion, because there are projects that are trying to achieve a net-zero construction site.

In general, the biggest feedback we get is that people are aware of their energy consumption. They want to share their data with third parties to enable optimisation. They also want to use the data in near real-time with the customer interface for some smart home interfaces. In general, most of the feedback we have received is about sharing energy data.

**In northern countries, we can observe a trend among end customers to have their own in-house display showing consumption. Is this also relevant in Austria? Do you get similar requests from customers?**

Not for a device itself, but for providing the technical documentation so they can implement it into their existing home management system. So, maybe they already have a smart home system installed and they also want to have a dashboard to integrate energy or meter data.

**What about requests for a mobile app?**

Austrian law requires us to provide a comprehensive web portal to view data and also change parameters on the meter itself. Therefore, many of our customer requests to retrieve data on the go are for the web portal. Occasionally we receive requests for an app for Android or iOS, but not on such a large scale, mainly because we already offer an adaptive (responsive) mobile interface that they can use via the browser on their smartphone.

**Customers in Vienna can access all the information through your web portal via their PC or mobile phone. Are they able to track their consumption data in real time?**

Not real time, but they can see the data the next day. They can also change the parameters, share data on the web portal, set alarms – all in all, they can do a lot of things on the website itself and the website is also accessible by smartphone. Last time we checked, 8.5% of all customers had created a website account and we have about 3% daily users.

In my opinion, we have three different types of customers – first we have the regular customers, who are usually billed once a year. Then we have the classic prosumers, who also produce the electricity and have some interaction with the grid. And finally, we have the active consumers, who not only produce, but also actively control their energy consumption, maybe do some load balancing, e.g. an e-mobility station and so on. We see a lot of customers moving into that active area. It's going to be interesting because these customers are interacting with us much more than the other two types.

**This really shows the change in customer behaviour – but how does digitalisation change your daily work and operations?**

I think one of the biggest innovations is that things are changing much more frequently, especially in IT. In the world of IT there are new requirements all the time, there is feedback from customers who have new functional requests want more information, and we try to use this information and feedback, because it is the customers who use the services we provide.

Good feedback leads to a better product or service. That is the biggest change – that we need to change and optimise our solutions more often. The second most important point is customer interaction. There's a lot more contact with customers, explaining or answering their questions, giving them feedback and so on.

**Iskraemeco is one of the consortium partners offering smart meters. What were the factors that influenced your decision to work with Iskraemeco and how is the collaboration going so far?**

The contract for our digitisation project was awarded to a consortium of partners. Overall, we had quite a lengthy tender process and a concept with three meter suppliers, which gave us a good, strong partner in Europe. That was a good start. In the tender process, we also decided on a consortium. In the end, it was the best offer overall that won.

We paid a lot of attention to quality – the price factor was not our main focus when we chose a smart meter provider. Production and delivery quality is something we check regularly – when Iskraemeco supplies meters, they are tested first. Only if the meters pass the tests do we accept the delivery and the quality has been really high.

**Your project has gone through the difficult time of the Covid 19 epidemic, which has had a major impact on supply chains. Have you felt this impact in the digitisation project?**

There are two sides to the epidemic when it comes to digitisation. First, it represented a big leap in digitisation, especially in terms of remote work and remote collaboration, and we had to get used to meetings/project planning taking place over the phone or remote connection. On the other hand, the epidemic had a big setback in installed meters. We did not get enough meters delivered in 2021 and were about over 100,000 meters behind. I would say we have currently recovered about 80% of the setback, so it's a good thing that a lot of the external staff was still employed, so we did not have to bring new installers into the project. That made it easier to get back on track.

**The main goal of the project is energy efficiency. Digitising the power grid improves energy efficiency and is a basis for sustainability. To what extent do you think this project contributes to the goals of the green transition?**

The biggest or first step is that you need data to know where you are and what has changed. You can have the best goals, but if you cannot measure them, you cannot track changes in energy efficiency. That, in my opinion, is the first step to more sustainable customer behaviour.

What I have personally found is that a lot of standby appliances have high energy consumption, but when you are not at home, you are still using a lot of energy that's wasted because you are not using

it. People really need to understand that electricity does not come out of an outlet, it's produced somewhere, it usually has a certain carbon footprint and people need to understand that better. Right now, energy production is not visible to customers. If they are no solar panels on the roofs or wind turbines, they are not visible to customers because energy remain hidden in the ground, in pipelines. That is something that needs to change and become more visible, more understandable. Smart meters and a graphical interface where you can see how much energy you have produced or consumed on a given day is a first step in making that more visible.

**So that it is no longer an abstract concept, but something concrete. What do you think now that smart meters are installed, and more and more data is being used? What is the next step then? Do we need to learn more about the data, more about how to use it? How do you see that?**

Unfortunately, in Austria it is quite heavily regulated what data we are allowed to use for analytics or grid planning, and I think that is why we are not currently using the full potential of this data. But we need to understand the data, the measurements, what is being measured and what we can do with the data. We need to understand the state of the grid, and there are many differences between different types of grids. A better understanding of the state of the power grid is, I think, the next big step.



## The power of creativity and innovation is driving progress and positive change

Mateja Kuralt and Anja Babič

At Iskraemeco, we embrace the spirit of innovation in all aspects of our business. As the energy industry rapidly evolves, we understand the importance of embracing change and building agility to respond quickly to new trends and customer needs. That is why we have used our innovative power to create modern energy solutions through Energy IoT, which utilizes emerging technologies such as artificial intelligence, rapid data transfer, and reliable communication. We are dedicated to keeping our devices, solutions, and services constantly up to date by staying ahead of the curve in our development and innovation activities.

Our team's innovative spirit is the driving force behind progress and a vital element of our business development. Our colleague Tomaž Dostal, Head of sector Innovations, says, "Our focus is on connecting with companies, teams, and individuals that generate breakthrough new product ideas and working with them towards our common goal." Innovation and the generation of new ideas are essential components of our corporate culture, supporting long-term vision, strategic thinking, and a competitive edge. By collaborating with our partners, external professionals, and stakeholders, we can successfully implement new ideas that help us bring new and improved products and services to life.

Iskraemeco's tradition of innovation goes back decades and today, we rank among the most progressive producers of metering solutions and lead by example in designing new standards of smart metering. Innovation is not just a buzzword at Iskraemeco, it is embedded in our DNA. Our Technology Design Center strategically manages future technology trends, enhances design processes, encourages creativity, and steers the global development of energy and water solutions.

The Technology Design Center enables us to pool the best resources, bring diverse ideas and perspectives together, and concentrate on key development efforts in a more effective manner. We also encourage the use of innovative technologies to turn the findings into energy and water infrastructure transformations. Through our incubation and acceleration Data2050, we are also focused on identifying novel ideas, speeding up their realisation, and collaborating with companies, and teams that deal with the Internet of Things, e-mobility, and other innovative data fields.

In addition, we are also a key member of the Elsewedy Innovation Box, a new online innovation platform at Elsewedy Electric, a leading provider of integrated energy and digital solutions in the Middle East and Africa. The Innovation Box is an online platform that enables employees to share their innovative ideas and provides guidance through the idea generation and business plan development process. As a key member of the team, we contribute our vast experience in innovation to drive business growth and innovation across all business units of the Elsewedy group.

At Iskraemeco, we are promoting innovative thinking amongst our employees and connecting with companies, teams, and individuals who generate product ideas. We look forward to continuing to use our knowledge and experience for the creation of integrated solutions designed to meet and exceed specific customer needs in the energy and water management sector, and to preserve the quality of life for future generations.





We conducted a short interview with

**Temida Novak,**

Specialist Engineer at Iskraemeco, to find out why she chose engineering as a career, how she innovates every day, and what she believes to be the greatest potential that engineering holds for the resilience of the world today.

1

**Engineering is an exciting and diverse field of work. It influences and improves our lives through ingenious solutions. What made you choose this profession?**

There is a saying: "Children close their ears to advice but open their eyes to example". And my first example were my parents, as they both worked in electricity distribution, my father being an electrical engineer as well. They took us with them to the office on several occasions and we were able to observe them at work first-hand. What also had a big impact on me was their encouragement to think hard and try to find a solution for everything by ourselves first.

2

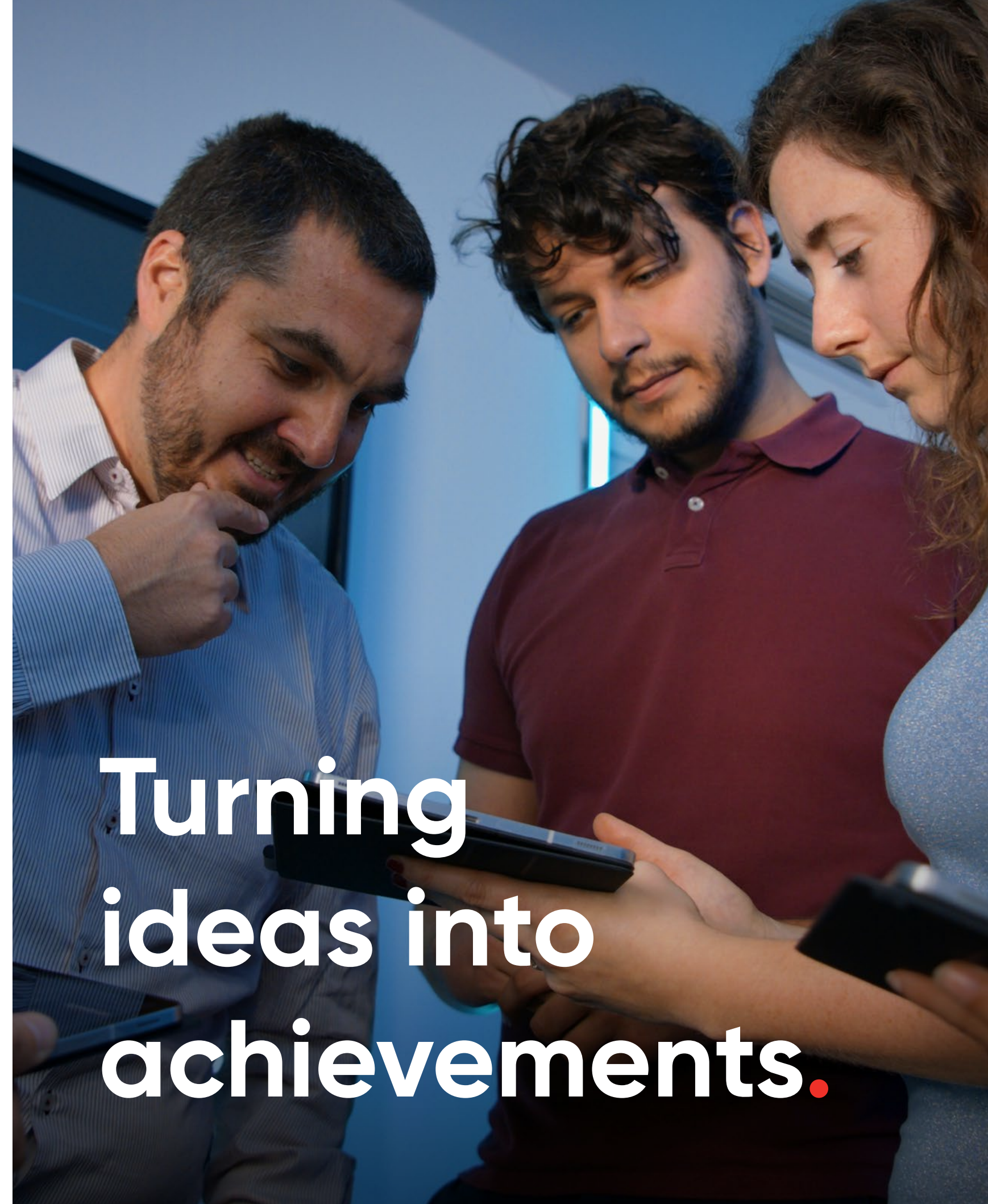
**Is innovation part of your daily work and how do you approach it?**

Fortunately, I work for Iskraemeco where innovation goes hand in hand with development and has won several awards for innovation. As a solution architect in the field of metrology, I am constantly in contact with our customers and have a good insight into their environment and challenges. On the other hand, there is an innovation team in our company from which I draw ideas and innovations. The combination of both sides helps me to develop customised, customer-oriented solutions that are modern and innovative at the same time. At the end, there is a technical design centre in our company that turns the solution into reality.

3

**When it comes to resilience of the world, where do you see engineering has the biggest potential?**

The situation on the electricity market is currently very turbulent. Digitalisation, grid flexibility and solutions based on IoT, data lakes, and smart cities are providing utilities with the data they need to manage energy consumption, predict demand, and optimise costs. This also helps consumers to act more sustainably while significantly reducing their energy bills.



Turning ideas into achievements.



# Elevating factory operations: Constantly fuelling efficiency, boosting productivity, and exceeding customer expectations

Miha Kern

In today's competitive business landscape, efficient and productive factory operations are critical for companies to stay ahead. Factories are the backbone of industry, responsible for manufacturing and producing goods that drive economies worldwide. By optimising factory operations in Iskraemeco, we help streamline processes, reduce costs, improve quality and effectively meet customer requirements.



## Lean manufacturing principles

Implementing the principles of lean manufacturing is fundamental to optimising factory operations. This approach focuses on eliminating waste, improving process flow and continuously increasing productivity.

The second Lean Conference was held in Iskraemeco, Egypt, in early June. Colleagues from India, Malaysia, Egypt and Slovenia discussed key performance indicators to be used and implemented for continuous improvement of production and related processes. One of the topics was the 5S method for creating and maintaining a clean and productive workplace. Participants learned about different methods and how they can use this performance indicator for future improvements when discussing the efficiency of their facilities.

## Advanced automation and robotics

Automation and robotics have revolutionised factory operations and offer significant advantages in terms of speed, precision and cost efficiency. Using automated systems for repetitive tasks and implementing robots on assembly lines increases productivity, reduces human error, and improves workplace safety, allowing workers to focus on higher-value tasks that require creativity and problem-solving skills.

Iskraemeco Kranj recently upgraded the versatility of its three-phase lines, which previously supported only residential stand-alone meter (RSA) segments. After a successful upgrade, these lines can now also produce products for the RSM (residential smart meter) market. In the coming months, additional improvements will be installed to increase capacity, productivity and reliability. The upgrade of the three-phase automated line will include the implementation of two robotic cells, while the upgrade of the single-phase automated line will focus on supporting IE.5 and simplifying changeovers.

## Employee training and engagement

Investing in the training and development of factory employees is essential for operational excellence. We know that only well-trained employees understand their roles, have the necessary skills and are able to adapt to changing requirements. Encouraging employee engagement through regular communication, feedback channels and recognition programs fosters a positive work environment that leads to increased productivity, better morale, and lower turnover.

Having the right people in the right places is increasingly important. Each of us is responsible for the quality of our own work. As products become more complex, employees' skills must be regularly updated to ensure they have sufficient knowledge to do our jobs. In order to provide a safe

environment for production employees to improve their skills, we intend to build a special training centre near the production facility. Specialists from Iskraemeco and other companies will be able to pass on their knowledge to other employees in this training centre.

## Data analytics and continuous improvement

Harnessing the power of data analytics uncovers valuable insights for enhancing our operations. By analysing key performance indicators (KPIs), production metrics and quality data, we regularly identify areas for improvement to make data-driven decisions. Continuous improvement methods, such as Six Sigma and Total Quality Management (TQM), increase efficiency, reduce errors and optimise processes to meet our customers' expectations.

Recently, several improvement workshops were held in which employees from different areas and departments discussed possible causes of deviations and defined measures to eliminate further waste in processes. During these sessions, employees discovered that data quality plays an important role in further analysis. A number of projects were initiated to improve data quality, including a revised methodology for calculating performance indicators, automated performance monitoring, and the like. We believe that better data availability will increase our confidence in the performance indicators and that we can use them as the best starting point for further analysis and action.

Optimising factory operations is critical for Iskraemeco to remain competitive in today's dynamic marketplace. By implementing lean manufacturing principles, using automation and robotics, investing in employee training and leveraging data analytics, we can achieve greater efficiency, productivity and profitability. These strategies and best practices allow us to remain flexible, adapt to market changes, and deliver high-quality products efficiently to ensure long-term success in the energy industry and, most importantly, customer satisfaction.



# Digital Twin from a technology perspective

Vladimir Milošević

At Iskraemeco, we are constantly looking for the best emerging technologies that might give us an advantage in the way we provide solutions to our customers, digital twin technologies are one of the most prominent solutions that open many opportunities for us on the market.



## What is digital twin technology?

Digital twin technology, also known as digital twinning or virtual twinning, is a type of technology that creates a digital replica of a physical object. This digital replica is a computer model of the physical object, which can be used to monitor, control, and simulate the behaviour of the actual object in real-time. It is based on the principles of Internet of Things (IoT) and data-driven analytics. The digital twin contains data about the physical object, including its design, performance, and other characteristics. This data is used to create a virtual model of the physical object which is constantly updated with data from sensors. This data can then be used to analyse the performance of the physical object and identify potential problems before they occur. Additionally, it can be used to improve the design of the physical object and optimise its operation. Digital Twin technology is a rapidly emerging innovation at the intersection of the Internet of Things and Artificial Intelligence, which is transforming the way organisations interact with their physical assets and processes. It encompasses several advanced manufacturing (ADMA) segments. At the same time, it is emerging as a valuable tool for Vocational Educational Training (VET) as it can be used to create digital replicas of physical assets and processes that can be monitored and analysed in real-time.

## Digital twin technology sector is evolving

It is difficult to estimate the exact number of jobs that digital twin technology will create. However, according to a report by the World Economic Forum, "by 2030, digital twin technology is expected to create up to \$1.2 trillion in economic value and could generate up to 15 million new jobs." Supporting existing and potential employees with services and custom learning pathways are going to be necessary practices in order to catch up with Industry 4.0 vocational demands. Market trends for digital twin technology indicate that it is growing quickly in various technology segments. According to Markets and Markets, the global digital twin technology market is estimated to grow from \$3.3 billion in 2020 to \$23.3 billion by 2025, at a CAGR of 45.2% during the forecast period. According to IDC, digital twin technology is projected to become a \$1.2 trillion global market opportunity by 2030. Digital twin technology is being used in various technology segments such as aerospace, automotive, healthcare, industrial, construction, and energy. In the industrial sector, digital twin technology is being used for predictive analytics, process optimisation, asset tracking and management, and remote monitoring.

## Project Digital Twin for Digital Lean

The Ministry of Economic Development and Technology announced the DT4DL initiative, for which Iskraemeco submitted a bid as the leading consortium partner for the digital transformation of businesses. The Digital Twin for Digital Lean project, co-funded by the Ministry of Economy, Tourism, and Sports, formulated Iskraemeco's and all consortium partners' digital strategies. The DT4DL project holds immense significance for the advancement of all participating companies. By developing a digital twin, Iskraemeco will be able to monitor the business impact of digital transformation on its business based on LEAN-measured outcomes. The project will improve both the internal and external processes of Iskraemeco along the complete supply chain (supplier-Iskraemeco-customer). Iskraemeco will build on this with a new business model and new XaaS (Anything as a Service) services, creating a digital twin platform, smart analytics for artificial intelligence, and data visualization, typically based on IoT data capture.



# Active participation in the DLMS UA

Primož Puhar and Nina Merše

DLMS UA is a non-profit organisation and the leading international voice for interoperable and secure data exchange in support of strategic energy and water management. Iskraemeco is one of the key members and contributors of DLMS UA and we believe that our active participation in DLMS UA and other associations will only strengthen our company's growth and market strength.

Iskraemeco has been a member of the Device Language Message Specification User Association (DLMS UA) since 1997.

DLMS UA develops and promotes the DLMS communication protocol for smart devices such as smart meters for electricity, gas, heat and water. DLMS is the smart link between energy and water consumption and supply and is a secure protocol for interoperable smart devices across all communication paths.

Today, DLMS UA has several working groups to bring together companies and experts in the smart grid field, in which Iskraemeco actively participates. The working groups are: Maintenance Working Group, Smart Metering Working Group, Electric Vehicle Charging Stations Working Group, Health Usage Monitoring Systems Working Group and Qualification Working Group.



The Electrical Energy Smart Meter working group is further divided into four sub-groups: Electricity (Smart Metering sub-working group), Gas (Gas Smart Meter sub-working group), Water (Water Smart Meter sub-working group) and Heat (Heat Smart Meter sub-working group).

DLMS was included in IEC standardisation in 2002 under IEC 62056 DLMS/COSEM. Since then, it has been a member of Technical Committee 13 in Working Group 14 (TC13 WG14), which is responsible for the exchange of smart meter metering data. A year ago, the Interoperable Device Interface Specifications (IDIS), a related organisation, merged with DLMS UA to accelerate the issuance of joint programmes in the energy and water fields. IDIS presents its work through three specifications: Package 1, 2 and 3.

## IEC 1906 AWARD

In recognition of his long-serving contribution as an expert of WG 14 and as key contributor to new elements of the DLMS/COSEM series IEC 62056, especially in the field of information security. His deep hands-on knowledge of the NIST / FIPS standards for cryptography was invaluable as these were selected by WG 14 for providing cryptographic protection in DLMS/COSEM.

## IEC 1906 Award (2022)

In recognition for his deep and continuous involvement in the development of the application layer protocol DLMS/COSEM, contributing to the publication and maintenance of the IEC 62056 series of standards covering architecture, data-model and profiles.



Iskraemeco has been actively represented in the DLMS UA organisation by **Milan Kozole**, Systems Design Architect, since its inception. In the first years, this was mainly on content, but also as a member of the Board since 2013 and as Chair of the Technical Committee from 2017 to 2022, where he was responsible for the implementation of the DLMS standard. We had a short interview with Milan about his work.

## DLMS is an association based on the monitoring of innovations and trends. Can you tell us what areas you are most active in at the moment?

As part of my work, I have contributed to the content of the Maintenance working group. Blue Book and Green Book, where the DLMS standard gets an extensive technical description. I work hard to ensure that the standard still supports older implementations in each new version (backward compatibility), to ensure the smooth operation of smart devices and to ensure the long-term stability of the standard for all users.

I am also active in the Qualifications Committee, where I am, among other things, a beta tester of the Conformance Test Tool. This means that I am testing the compliance testing tool before release in conjunction with our smart meters.

Just as DLMS is part of the standardisation structures, I am also involved in the IEC, the International Electrotechnical Commission, which is the world's leading organisation for the preparation and publication of international standards for all electrical, electronic and related technologies. In Slovenia, I am an active member of the Slovenian Institute of Standardisation (SIST), which is responsible for the preparation and adoption of standardisation documents and represents Slovenia's interests in international (ISO and

IEC) and European organisations (CEN, CENELEC, ETSI). I work in the MEE (Metering and Load Control Equipment) field, which is responsible for the national adoption of DLMS standards.

In the last period I have been operationally involved in the implementation of the latest IDIS package, Package 3 (P3), which takes care of the interchangeability and compatibility of smart meters and the new IE.5 meters. IDIS P3 is required in the Belgian market, which Iskraemeco is entering with a renewed range of solutions, and standardisation is an important link to ensure that smart meters comply with the latest standards available.

## As an active member in associations, you have also received several enviable awards. Can you introduce us to some of them?

I am very proud to have received such awards. In 2014, I was awarded the IEC 1906 AWARD by the IEC for my long-standing contribution as an expert of working group 14 and as a key contributor to new elements of the DLMS/COSEM IEC 62056 series, especially in the field of information security. They highlighted my deep practical knowledge of the NIST/FIPS cryptography standards, as they have been adopted by Working Group 14 to provide cryptographic protection in the DLMS/COSEM IEC 62056 series of standards.

Last year, I was again awarded the IEC 1906 AWARD for my deep and lasting contribution to the development of the DLMS/COSEM protocol and my contribution to the IEC 62056 series of standards covering architecture, data model and profiles throughout the years of my work.

## You are already handing over some of your roles in the DLMS. Finally, can you tell us what else has inspired you over the years?

That's right. In November 2022, I handed over some of my DLMS UA roles to colleagues. Aleš Potočnik, Director of the Technological Design Centre field, is taking the membership of the DLMS UA Board, while Klemen Belec, Product Management Director, is taking over the other technical roles. I will continue to be active in the Qualifications Committee. This shifts the focus of my work from the creation of DLMS specifications towards the implementation and validation of the DLMS protocol.

I am proud of my contribution to the DLMS UA organisation. But let us not forget the importance of the contributions of my predecessors, where I can refer to Isaac Newton's statement "If I have seen further than others, it is by standing upon the shoulders of giants". I am sure that other colleagues who are taking up work in the association, as well as those in the company, will share this view.



# Exploring Iskraemeco's laboratory and validation capabilities

Andrej Jugovic

With the development and expansion of the production programme, Iskraemeco consequently developed its own laboratory capabilities. We took care of the professional training of personnel and invested in modern measuring equipment that supports development and research work and the monitoring of technological processes.

Additionally, we introduced calibration and test procedures according to the requirements of international standards and legislation. To achieve high quality laboratory services, we have established a quality system according to the ISO/IEC 17025 standard, which ensures the independence and impartiality of laboratories and the international comparability of test results. The laboratory is accredited for EMC Testing and Calibration of electrical quantities. A major part of the laboratory activities is accredited by ISO/IEC 17025, and we follow the rules of ISO IEC 17025:2017 in all our activities assuring independence and impartiality.



## Calibration of reference meters and testing equipment for electricity meters

Calibration of reference meters and testing equipment for electricity meters is the process used to ensure accuracy in measuring electrical energy. This is achieved by regularly checking and adjusting reference meters and testing equipment used to verify the accuracy of electricity meters. This ensures that electricity meters used in industry and households accurately measure electrical energy consumption.

### We offer the following services in this field:

- Performing accredited calibrations of reference meters and testing equipment for electricity meters (in accordance with the SIST EN ISO/IEC 17025 standard) with certified international traceability enables customers to use measuring equipment for verification in the field of legal metrology and quality control of measuring equipment in quality assurance processes.
- Providing traceability of calibrations to the international level (PTB, Germany).
- Performing calibrations of standard meters (up to the class of 0.01%) for electrical quantities: power, energy, voltage and current.
- Larger measuring devices are calibrated at the user location.



## EMC

Electromagnetic compatibility (EMC) is the ability of a unit of equipment to operate correctly in its electromagnetic environment without causing excessive electromagnetic interference with any other equipment in that environment. In general, when establishing electromagnetic compatibility, there are two types of EMC testing:

- Electromagnetic emissions determines how much electromagnetic disturbances the device itself generates and emits in the environment.
- Electromagnetic immunity testing determines how well the device performs in the presence of electromagnetic disturbances.

### EMC electromagnetic compatibility testing activity.

In most markets, having an EMC certification is a requirement that must be met. Companies must achieve regulatory requirements, improve product performance, and reduce the risk of costly non-compliance to strengthening their position in the market. EMC is therefore vital for businesses. We test electronic products for immunity to interference and measure the radio frequency interference they emit. Superior equipment enables testing with above-standard levels of interfering signals.

### We offer the following services in this field:

For the electricity meters

- Performing accredited EMC tests for electricity meters in accordance with the SIST EN ISO/IEC 17025 standard and the requirements of product standards.
- For other electronic products non-accredited EMC tests are performed.

### Set of EMC test:

- Resistance to conductively coupled electromagnetic interference.
- Resistance to radiated electromagnetic interference.
- Measurement of radio frequency interference emissions.



## RF performance

Measuring Total Radiated Power and Total Isotropic Sensitivity is crucial in testing wireless mobile technology devices. Total Radiated Power measures the amount of electromagnetic energy that a device emits, while Total Isotropic Sensitivity measures the device's sensitivity to receiving electromagnetic waves from all directions. These measurements help ensure efficient and reliable operation of wireless devices and compliance with electromagnetic compatibility standards and regulations.

**We offer the following services in this field for mobile technologies** GSM, GPRS, EDGE, CDMA, LTE, LTE-M1, NB-IoT:

- Measuring TRP: Total Radiated Power.
- Measuring TIS: Total Isotropic Sensitivity.

## Product reliability

Product reliability refers to the ability of a product to operate as intended under specific conditions and for a certain duration of time. It is a measure of the product's quality and consistency in meeting the customer's expectations. Product reliability can be evaluated using various methods such as reliability analysis, testing, and simulations. Ensuring product reliability is essential to avoid potential failures that could lead to customer dissatisfaction, loss of company reputation, and financial losses.

### We offer the following services in this field:

- Calculations of the failure rate of electronic devices in accordance with the standards.
- Carrying out tests of accelerated ageing of electricity metering equipment and evaluation of results.
- Testing the stability of meteorological characteristics of electricity meters at the upper limits of the operating range of temperature, voltage and current for a longer period.





# Understanding ESG: A framework for evaluating environmental, social, and governance factors

Lara Šarabon Štojs

The ESG framework serves as a means of evaluating the environmental, social, and governance factors of a company. Both companies and investors use it to evaluate the impact of business practices on sustainability. Environmental factors pertain to the effects of a company's actions on the environment, including pollution, waste management, and greenhouse gas emissions.

Social factors encompass issues such as labour practices, human rights, community involvement, and product safety. Governance factors refer to management practices, such as executive compensation, board diversity, and transparency in financial reporting. ESG evaluates the overall sustainability of a company, accounting for financial performance as well as environmental and social impact. Companies that prioritise ESG factors in their operations may appeal more to socially responsible customers and investors who seek to work with organisations that align with their values and positively affect society and the environment.



## Environmental aspect

The environmental aspect of ESG refers to a company's impact on the natural environment. It includes factors such as energy use, greenhouse gas emissions, water use, waste management, pollution, and climate change.

Environmental issues have become a major concern for companies, as the negative impact of human activities on the planet has become increasingly apparent. In response, companies should be taking steps to reduce their environmental footprint and mitigate the risks associated with climate change.

Some of the key environmental factors that are considered under the ESG framework include:

- **Energy use:** Companies are evaluated based on their energy consumption and the sources of energy they use, such as renewable energy sources like solar or wind power. The energy usage of the company's product while its operation is also a crucial factor that is taken into account.
- **Greenhouse gas emissions:** Companies are evaluated on their carbon footprint, which includes their emissions of greenhouse gases such as carbon dioxide, methane, and nitrous oxide.
- **Climate change:** Companies are evaluated on their strategies for mitigating the risks associated with climate change, such as investing in renewable energy and adapting to rising sea levels.
- **Water use:** Companies are evaluated based on their water consumption and their efforts to conserve water.
- **Waste Management:** Companies are evaluated based on their waste generation and their efforts to reduce, reuse, and recycle waste.
- **Pollution:** Companies are evaluated based on their emissions of pollutants.

Considering the environmental aspect of ESG is crucial for companies that aim to foster sustainability and manage risks related to environmental challenges.





## Social aspect

The social aspect of ESG refers to a company's impact on society and includes factors such as labour practices, human rights, community engagement, product safety, and diversity and inclusion.

Companies have a responsibility to operate in a way that takes into account the well-being of their employees, customers, and the communities in which they operate. In addition, companies that prioritise social impact are often seen as more attractive to consumers, employees, and investors who are looking to support companies that align with their values.

Some of the key social factors that are considered under the ESG framework include:

- **Labour practices:** Companies are evaluated on their treatment of employees, including their pay and benefits, working conditions, and policies around overtime and other labour issues.
- **Human rights:** Companies are evaluated on their respect for human rights, including issues such as child labour, forced labour, and discrimination.
- **Community engagement:** Companies are evaluated on their efforts to engage with and contribute to the communities in which they operate, including charitable donations, volunteer work, and other forms of community support.
- **Product safety:** Companies are evaluated on their efforts to ensure the safety and quality of their products, including measures to prevent product recalls or other safety issues.
- **Diversity and inclusion:** Companies are evaluated on their efforts to promote diversity and inclusion in their workforce, including their policies around hiring, promotion, and training.

Companies that are in line with social impact tend to be more appealing to consumers, employees, and investors seeking to endorse organisations that uphold their beliefs and make a positive difference in society.



## Governance

The governance aspect of ESG refers to the way a company is managed and includes factors such as executive compensation, board diversity, shareholder rights, and transparency in financial reporting.

Good governance is essential for the long-term success of a company and can help to reduce the risk of fraud, corruption, and other unethical practices. Moreover, companies that have good governance tend to be more appealing to customers seeking stable and competently run organisations.

Some of the key governance factors that are considered under the ESG framework include:

- **Board diversity:** Companies are evaluated on the diversity of their board of directors, including the representation of women and other underrepresented groups.
- **Shareholder rights:** Companies are evaluated on the extent to which they respect shareholder rights, including the ability of shareholders to vote on important issues and the transparency of shareholder communications.
- **Transparency in financial reporting:** Companies are evaluated on the transparency and accuracy of their financial reporting, including their adherence to accounting standards and their disclosure of financial risks and opportunities.

In the context of ESG, the aspect of governance is a crucial factor that companies and investors should take into account to encourage ethical practices and diminish the risk of malpractices.



# The environmental, social and governance pillars represent an increasingly important aspect of iskraemeco corporate responsibility.

We are committed to considering the environmental, social and governance impacts of our operations and decisions.



At Iskraemeco, we firmly believe that companies that prioritize ESG factors are in a stronger position to effectively manage risks, enhance resilience, and generate value for all stakeholders. As the significance of sustainability continues to gain momentum, ESG factors are set to play an increasingly pivotal role in shaping the future of corporate sustainability. We recognize that ESG is becoming a powerful driving force for transformative change in the business landscape, fostering greater accountability, transparency, and sustainability across all economic sectors. Embracing this momentum, Iskraemeco is committed to incorporating and championing best ESG practices, thereby contributing to sustainable development and the overall success of our company.



# Powering Iskraemeco with renewable energy

Gašper Binter and Mateja Kuralt

Solar panels are becoming an increasingly popular choice for all businesses looking to reduce their carbon footprint, their dependence on mainstream energy sources, and save on energy costs. At Iskraemeco, we strive to keep up with the trends and technologies in the field of sustainable development. That is why we decided to invest in the installation of solar panels on production facilities in Kranj.

In total, there are  
**1,904 cells**  
 (5,500m<sup>2</sup>) on Iskraemeco's facilities, which will generate 920MWh per year. If this summer is as sunny as the one in 2022, we expect production of 1GWh (1,000MWh).



Producing electricity brings a number of benefits, such as cost savings, because the solar panels have no fuel costs and require little maintenance. This will help the company to better manage and address the current energy challenges. By producing its own energy, Iskraemeco will become self-sufficient, reducing its dependence on the traditional electricity grid by 21 percent and making it more resilient to power outages. In the future, we expect to be able to sell off the peaks of energy generated during summer days at market price.

In addition to the financial benefits, installing solar panels also represents a positive impact on the environment, as solar energy is a clean and renewable energy source that produces no emissions or pollution. By reducing our dependence on fossil fuels, we are making an important contribution to the fight against climate change and improving air quality, as our carbon footprint will be reduced by as much as 450.7 tons.

The installation of solar panels will also provide a "live" test centre for our smart solutions, which include smart meters and electric vehicle charging stations. Together with integration its software suite Symbiot, we will be able to integrate our solutions with the solar power plant to optimise the performance of the meters and solar panels, which in the past has been a challenge in cases of unexpected switching off and on of solar power plants. Solar panel installation is an excellent opportunity to demonstrate best practice and performance in conjunction with our products.

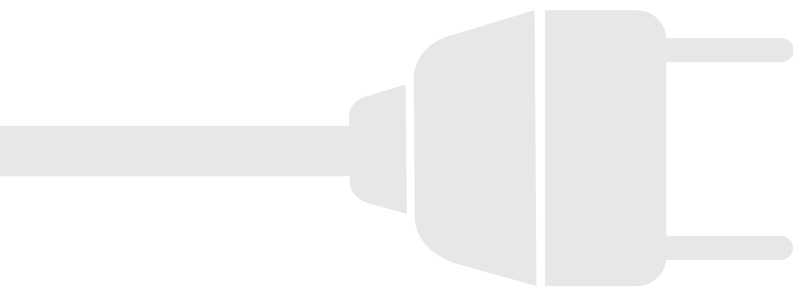
The decision to install solar panels on the production facilities is therefore a smart move that will long-term benefit both the company and the community. By installing solar panels, the company will be better able to address the current energy challenges, reduce its environmental impact, make a significant contribution to its sustainability strategy and increase its resilience in the event of power outages. The community will also benefit from cleaner air, a reduced carbon footprint and access to a reliable energy source. As part of Iskraemeco's sustainability initiative, we encourage other companies and individuals to invest in activities and solutions for a greener and carbon neutral future.



# Raising awareness to reduce energy consumption through the efficient and sustainable use of energy

Lara Šarabon Štojs

Contrary to popular belief, improving energy efficiency does not mean giving up our comfort and quality of life in everyday life. Improving energy efficiency is based, among other things, on optimising production processes and energy consumption, using renewable energy sources instead of fossil fuels, and promoting responsible consumption and recycling.



We all play a role – each individual can contribute to energy efficiency. There are many simple actions we can take throughout the year:

- Use daylight hours for tasks that require more light.
- Turn off lights and electrical appliances when they are not in use. Another way to contribute to energy efficiency is to use LEDs instead of traditional lamps or incandescent bulbs. This alternative can save up to 80% energy compared to traditional lighting and is also more environmentally friendly thanks to the materials used to make them.
- Replace old appliances with more efficient ones that consume less energy.
- As for transportation, the most efficient way is to give preference to public transport, walking, or cycling. If we choose to drive a car, there are some driving habits that also contribute to energy efficiency: keep a steady pace and do not drive at excessive speeds; keep the windows closed and set the air conditioning to an average temperature of 21°C; and ensure that tyres and the engine are properly maintained.

In addition to the environmental benefits, these measures can also result in financial savings. For example, if you use less energy, that means a lower electric bill.

**Optimise your energy consumption and make a positive contribution to environmental protection with a smart electricity meter.**

Upgrading to a smart meter is also a great way to help reduce our environmental footprint. Smart meters are the foundation when it comes to managing your own energy consumption. At Iskraemeco, we are sure that every consumer wants to improve their energy consumption. To achieve this, consumers must have real-time information and learn to understand it. If consumers do not have access to the data, it is impossible to understand and take advantage of it.

A smart metering system is an electronic system capable of measuring electricity fed into the grid or electricity consumed from the grid, providing more information than conventional meters. Such a system is capable of transmitting and receiving data for information, monitoring, and control purpose, using a form of electronic communication, and comes with a range of benefits for the energy system and its users. Smart meters can provide close to real-time feedback on energy consumption and enable those consumers interested to better manage their use, save energy and lower their bills.

Having a smart meter increases the chances of saving incomparable amounts of carbon. Smart meters are the only device that enables the integrating of low-carbon technologies and renewable sources of energy into the decentralised and digitalised electric network. They provide real-time information on consumption and the cost of the energy used. Based on this, consumers can then improve their energy consumption, which is important to meet CO<sub>2</sub> reduction targets.







## Quality and growth mindset

Gregor Kita and Anja Babič

What does a growth mindset have to do with quality processes in a company like Iskraemeco? A lot. One of the key factors that impact the quality of our products and solutions is the consistent compliance with customer objectives, needs, and expectations. However, achieving high level of quality may not always be straightforward and may require multiple iterations. This is where growth mindset comes in.

When faced with pain or criticism, it can be tempting to ignore it and move on. However, doing so often means missing out on opportunities for growth and improvement. This is true not only in our personal lives, but also in the business world. In particular, companies with long traditions must be willing to break from the past and embrace new approaches if they want to thrive and grow. We often times experience moments like this in the interactions with customers. There might be a mismatch between what we provide and what customers need. In some other case, they might have an improvement idea – and we need to take a closer look at it; and there are many other such examples.

Director of Quality has recently experienced this firsthand. During a project, Iskraemeco team received strong recommendations from a customer. While we could have brushed it off, instead we chose to take a closer look at the shortcomings and explore opportunities for improvement. This experience reinforced the importance of being open to feedback and willing to challenge ourselves in order to achieve growth and excellence.

Through our recent project, we also realised the importance of cooperation and building rewarding partnerships. In the

business world, a company is usually both a customer and a supplier, and these roles are complementary. As a customer, we have the power to make demands, but as a supplier, we must listen and react to the needs of our customers. The customer feedback could easily be taken negatively, but it might as well transform into an unprecedented opportunity to improve our processes, relationships with customers, and as a result, bring our solutions and products to the highest level of quality.

Ultimately, success is only possible through collaboration and cooperation. By working together with our customers and building strong relationships, we can achieve more than we ever could on our own. As a company, we must be willing to prioritise partnership and cooperation in order to achieve our goals and provide the best possible service to our customers.

The path to the growth mindset starts with environment where employees feel safe and comfortable enough to speak up, bring attention to potential and existing issues, all with the aim to improve and optimise. Listening to feedback, as well as a willingness to learn and develop, has a direct correlation with higher quality, exceptional solutions and, more importantly, relationships.





Read below an interesting interview with **Gregor Kita,** Director of Area Quality at Iskraemeco who is transforming the company's quality landscape with his team.

**Gregor, you have shared your thoughts about the importance of growth mindset for achieving high quality standards. Although it may not be the conventional approach to quality, its importance cannot be underestimated. What inspired you to start taking a different approach?**

The most crucial aspect lies in one's personality: being positive, open-minded, and curious. These personal traits are integral to education and can be learned through examples of good practice. It is essential to bring honesty, openness, and curiosity into business, even if it means taking risks by asking questions or seeking clarification. Consistency is key.

Honesty means acknowledging when you don't know something and having no problem about asking someone who does. This honesty enables us to support customers in a confident and transparent manner. Customers don't expect us to have immediate answers to everything; instead, they expect us to understand their needs and provide solutions.

We can take the analogy from school. The teacher expects you to know everything and deliver all the information in order to get a good mark. This system rarely accounts for the fact that not knowing something is a natural part of learning. It leads to negative experiences, demotions, and lingering feelings of inadequacy. In contrast, I believe in constantly seeking solutions and maintaining an open mindset. Personal experience and mindset play a significant role in this matter. The customer understands the complexity of things and doesn't expect us to possess all the knowledge. However, they do expect us to comprehend their needs, develop and execute solutions, and present them without passing the responsibility, hiding information, or bluffing.

**Did you implement any new concrete actions, either in your team or in direct customer collaboration?**

We have actively embraced a collaborative approach during audits with our customers, encouraging them to work together with us to identify and validate effective solutions and address any weaknesses. We have shifted our mindset from avoiding or concealing issues that are not pleasant or ideal to confronting them head-on. This change in approach has yielded remarkable results, particularly in external audits and customer evaluations.

SIQ now regards us as a highly mature company that truly understands the importance of quality. They recognise our commitment to finding solutions in partnership with them. Our partners, too, perceive us as a transparent and trustworthy ally, and we have taken it a step further by initiating monthly evaluations with our customers. During these evaluations, we don't simply close individual recommendations with reports; instead, we present demonstrations by the responsible process owners to showcase how we have resolved the identified issues. This practice provides us with an opportunity to establish ourselves as an authoritative and competent partner that can be relied upon.

Overall, this shift towards collaboration, transparency, and proactive problem-solving has had a significant positive impact on our relationships with both external auditors and our valued partners.

**How do the customers experience Iskraemeco's approach to quality? Did we receive any interesting feedbacks you could share?**

Our customers have come to view us not only as a competent manufacturer of quality devices, which is a remarkable legacy and achievement in itself, but also as a comprehensive solution provider. We have transitioned from being perceived solely as a product supplier to offering holistic solutions and services. Our customers now engage with us at a higher level, seeking advice and guidance, which has transformed our role into that of collaborative partners rather than a traditional teacher-learner dynamic.

Most importantly, our partners now perceive us as a responsive and attentive ally, rather than just a robust producer. We have become their sensitive advisors, fostering a deeper level of trust and understanding. This shift in perception carries significant responsibilities and complexities, as we strive to meet their evolving needs and exceed their expectations.





# EU Security regulations: supporting or undermining the digital transformation in the energy sector?

Anže Zaletel

**For the purpose of addressing the challenging topic of upcoming information and cybersecurity regulations, we have asked ourselves a provocative question: "Does the European Union's security regulation support or undermine the digital transformation in energy sector?"**

There is no easy answer for such a question as there are several aspects and motives as to why the European Union has decided to adopt security regulations, to mitigate existing and future information and cybersecurity risks in the energy sector.

One of the most valid arguments why the European Union would adopt horizontal security regulations is to address the rising global annual costs of cybercrime, which was estimated at EUR 5.5 trillion in 2021, which is predicted to surpass the EUR 10 trillion in 2025. With this in mind, we can assume that any product or component manufacturers, software developers, cloud or other service providers agree that both technical implementations and implementation of horizontal regulatory acts are needed to address rising and ever-evolving cybersecurity risks. As smart energy products and solutions are an integral part of the critical infrastructure, we have already incorporated several information and cybersecurity standards (e.g. ISO 27001 standard family, ISO/IEC 62443) and existing regulatory requirements (e.g. NIS, GDPR) into our operations, to assure the highest levels of confidentiality, integrity, availability, and trust in smart energy products.

Additionally, the European Union's requirements on the sustainable, clean, and energy-efficient society have identified the need for digital transformation of the energy sector. Namely, the data access and data management would enable the utilisation of smart metering data to improve energy efficiency.



**On the one hand, we have the increased information and cybersecurity risks and on the other, the need for data utilisation to achieve the desired energy efficiency. How can these important initiatives go hand-in-hand to achieve the best energy efficiency without the risk of increasing the impacts of cybersecurity incidents?**

The answer to both topics resides in the European Union security regulations. Namely, the following regulations will ensure the transition towards secure data utilisation and minimisation of European-Union-wide information and cybersecurity risks:

- The Network and Information Security (NIS 2) directive and Network Code on Cybersecurity (NCCS): the NIS 2 directive is applied to both public and private sectors, to improve the security of networks and information systems to prevent, detect, and respond to the security incidents. The NCCS is an energy-sector-specific regulation proposing sector-specific security controls and procedures to assure the highest level of security of the energy sector and products used by the energy sector and assure that the suppliers' components are validated before being used as part of the energy critical infrastructure.
- Radio Equipment Directive (RED) new Delegated Act: proposes additional security controls for all radio equipment devices, including electricity smart metering devices.

- Cyber Resilience Act (CRA): a horizontal regulation on cybersecurity requirements for all products with digital elements, to bolster more secure hardware and software products. Classification of products in 3 categories, with different compliance/conformance processes, from self-assessments to European Union Common Criteria (EUCC) certifications. Additionally, the CRA proposes a procedure for efficient and transparent vulnerability management in products with digital elements.

To achieve the desired digitalisation of the energy sector in a secure manner, an even playing field and rules must be applied to all entities that are already present or are entering the European Union market. With regulations, this playing field and rules are being set, to offer the full support towards secure digital transformation in energy sector, but the regulators must assure:

- Any overlapping or duplication of requirements are repealed to avoid unnecessary technical or financial impacts on the energy sector.
- The existing smart metering and advanced metering infrastructure certification schemes are recognised as European Union Common Criteria (EUCC) standards and used as proof of conformity with security requirements.
- The harmonisation of legislation at the European Union level, to avoid single country adoptions or misinterpretations of the security requirements.

**To answer the title question: for now, the European Union and security regulations support the digital transformation in energy sector, but to avoid any negative impacts on the sector, relevant stakeholders have to be included, and their opinion taken into account, during the legislative process.**



# Robotic cell for smart meter testing

*Peter Štefe, Miha Jež, Lara Šarabon Štojs and Nina Merše*

**Robotics is now an indispensable part of any batch production and is responsible for the success of companies. Through automated production, companies ensure high product quality, operate in a cost-effective way and increase productivity. Iskraemeco invested in a robotic cell for automated testing of electronic circuits, and submitted the innovation to a tender. The innovation represents the automation of a process that could not be achieved with standard robotic methods.**

Testing printed circuit boards (PCB) is a low-value-added operation, but it is essential for the smooth running of downstream operations. We use two testing methods, ICT (in-circuit testing) and FT (functional testing of the meter), in sequence. In our analysis of the situation, we found that we have large inter-phase inventories (different codes) and a strong human factor in the decisions on the production process. For sustainability reasons, we decided to use existing FT devices for the automation, which were further upgraded with a local supplier. We have taken an innovative approach to the design of the ICT machine, with the press directly on the conveyor belt, which leads to fewer components in the test rig. Automation requires packaging that is simultaneously suitable for the testing process and the downstream logistics within the company, which is a challenge.

The innovation has also given us real-time traceability, allowing us to monitor the progress of production process testing and quickly detect and correct defects.



## Improving the production process and increasing efficiency

When it came to the test range, we decided to import the ICT testing directly onto the conveyor belt, thus gaining space and better product throughput. We encountered a major challenge when placing the FT devices in the robotic cell, as their dimensions exceeded the space dedicated to the robotic control of the printed circuit boards. Due to the size of the test fixtures, we consequently had to choose a robotic arm with a longer reach – encountering the problem of accuracy and repeatability when inserting a metal part on a printed circuit board (PCB).

The PCB robotic test cell is an automated system that tests, inspects and classifies electronic circuits using two tests and a robotic arm. Specialised tools, sensors and software allow the cell to perform a variety of tests and inspections. As the cell is integrated with an existing line, testing starts with cell charging, directly from the THT line, which allows immediate fault detection, and eliminates inter-phase stock.

The robotic cell combines two operations: ICT and FT. The conveyor belt of the robotic cell is positioned above the existing belt of the THT line, ensuring a continuous flow of products and eliminating the manipulation of pieces during operations. The sensors are used to perform an input check of the panel before the first test to ensure that it is correctly installed before ICT testing begins. The modularity of the first test unit allows ICT to test a wide variety of electronic circuits, and the quick and easy change of adapters reduces changeover times. FT follows, where the robotic arm carries the boards to the test bench for functional testing (testing communication with the processor, checking registers, checking LCD and key operation, current measurements, etc.). Functional tests are carried out using existing test equipment. If a board fails one of the tests, the robotic cell transfers it to another line, where the operator collects it and redirects it for service. Boards whose tests are successfully completed are transported by the operator to the installation site.



### Sustainable energy efficiency

Iskraemeco sees sustainability as a philosophy to be lived and implemented. We support sustainable development practices that promote economic growth in harmony with the environment and strive to improve the quality of life around the world, both today and in the future. Through innovation, we strive for a better future for all our stakeholders. We know that in addition to optimising our own operations and our products, we can also do a lot to improve the solutions we offer and develop, and the way we manufacture our products.

This innovation has helped to relieve workers from repetitive and burdensome tasks. The quality of the workplace has improved. The solution has helped to increase ergonomics, operational economy and sustainability in one fully robotic cell.

At the same time, the level of product quality has risen, which contributes to customer satisfaction. In this way, the innovation represents a significant improvement in both employee and customer satisfaction. Innovation represents a significant improvement of a process within a company and represents an improvement in efficiency. At the same time, inter-phase storage is eliminated, which means improved space utilisation. As a result, energy efficiency has improved and product production time has been reduced. Both contribute significantly to reducing the carbon footprint of production.

The innovation is sustainable because it has been implemented using circular economy and application principles. The innovation also consists of packaging which we have designed to be suitable for the testing process as well as for further logistics within the company. This saves packaging material and optimises the packaging's performance and sustainability. The packaging is supplied by a Slovenian manufacturer and is made of recycled plastic.

Using a robotic cell for the test process saves energy, time and material. Consistency of the product and its continuous quality are also improved. All this contributes to energy efficiency and optimisation of the production process. In the future, we see many opportunities to further optimise the production process. By installing Automated Guided Vehicles (AGVs), we will be able to reduce the need for manual work and increase efficiency, as the AGVs will be able to transport the tested electronic circuits to assembly. This will ensure a faster, more accurate and cost-effective production process.

## Jinko Power Taps Elsewedy Electric T&D as EPC Contractor for 300MW Saad Solar PV Project in Saudi Arabia

**Construction of the 300MW Saad Solar PV project in the Kingdom of Saudi Arabia has begun after Al Ghazala Energy Company, a subsidiary of Jinko Power Technologies Co, Ltd, a global leader in renewable energy, successfully completed financial close.**

The full EPC contract was handed over to Elsewedy Electric T&D for the Transmission and Distribution of Energy ("EETD"). By selecting Elsewedy Electric T&D for this project, Ghazala has ensured that the highest quality standards will be met should the project be completed on time and within budget. It is also a groundbreaking step forward in their efforts to achieve their goal of having 9.5GW of solar energy by 2023.

The ambitious programme, "The Renewable Energy Project Development Office" (REPDO), has worked diligently to achieve its goal of playing a critical role in the construction of the Saad Power Plant, located 85km east of Riyadh City. The programme used its well-known EPC (Engineering, Procurement and Construction) and O&M (Operation and Maintenance) capabilities to build and operate a 350MW photovoltaic power plant equipped with all the necessary lines and utilities to be connected to the national grid. REPDO has worked with great dedication and determination towards achieving its goal and has shown perseverance in doing so.

The Saad project was selected as part of Category B in the third round of bidding for the Kingdom's National Renewable Energy Programme (NREP). In March 2022, it was awarded the power purchase agreement, highlighting its importance for energy supply. Through this agreement, the project will significantly contribute to achieving the Kingdom's renewable energy goals while providing a secure and affordable source of energy for the country's citizens.

ELSEWEDY  
ELECTRIC



# SOKHNA360, A connected city

Technological advances are revolutionizing the way businesses and industries operate. From automation to artificial intelligence, technology is changing the face of industry worldwide. With the rapid pace of innovation, companies are now more than ever adopting new technologies to stay competitive in their respective industries. Elsewedy Industrial Development has recognised this paradigm shift and is ahead of the curve with the creation of SOKHNA360 – a prime example of the company's innovative and sustainable approach.

**ELSEWEDY  
ELECTRIC**



SOKHNA360, an industrial smart city, is revolutionising the way businesses operate and succeed. With its state-of-the-art infrastructure, comprehensive logistics services and advanced technology, SOKHNA360 enables businesses to streamline their operations and maximise productivity. SOKHNA360's strategic location near the Suez Canal provides easy access to global markets, making it an ideal hub for international trade. SOKHNA360 also offers a range of business support services, such as legal, financial, and marketing support, to promote business success.

Elsewedy Industrial Development, a champion of advancements in industrial automation, has entered into a collaboration with Elsewedy Digital that has allowed them to leverage their respective strengths and expertise to develop innovative industrial solutions. The partnership has enabled Elsewedy Digital to provide Elsewedy Industrial Development with advanced digital services and products, such as IP video surveillance, access gates, parking management systems, emergency systems, public address systems, intelligent irrigation systems, waste management systems, lighting control systems, intelligent meter systems, automation systems, security towers, cybersecurity, Wi-Fi solutions and more. This collaboration is a testament to Elsewedy Industrial Development's commitment to providing innovative solutions that anticipate and meet the evolving needs of the sector.

SOKHNA360 pioneers innovative industrial solutions that have a lasting impact. SOKHNA360's cutting-edge technology is designed to help businesses and organisations reduce their carbon footprint, conserve natural resources and promote environmental sustainability. With its comprehensive suite of tools and services, SOKHNA360 empowers businesses to streamline operations, reduce waste and improve their overall sustainability performance. By leveraging digital technologies and smart infrastructures, SOKHNA360 engages local communities and industries to ensure that the city serves the environment, the economy and the social well-being of the community.

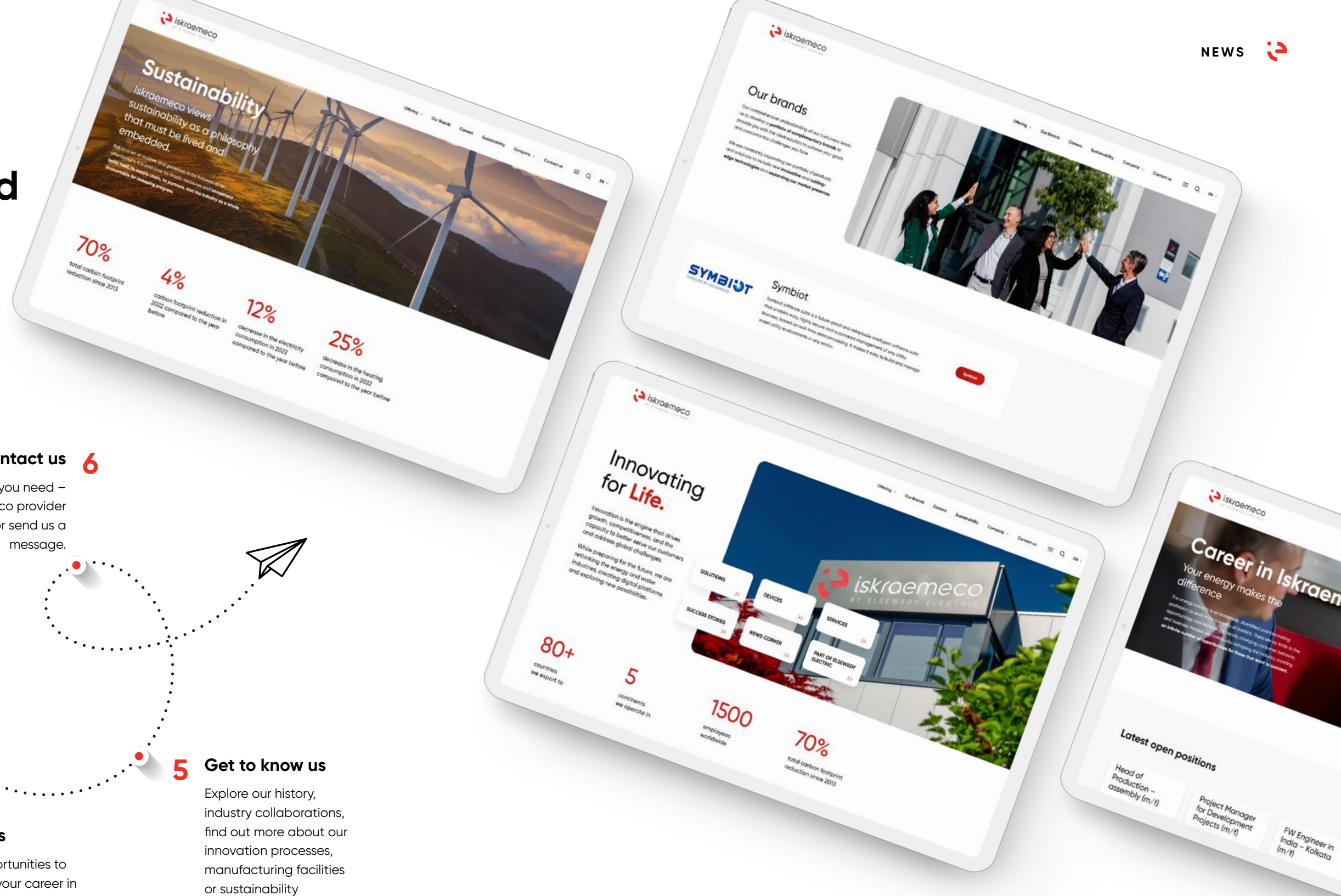
In summary, given the growing demand for more sustainable and smarter cities, SOKHNA360's pioneering strategy of combining cutting-edge technology with an eco-friendly approach is increasing industrial efficiency while reducing its environmental footprint. SOKHNA360 is a shining example of how industrial smart cities can benefit society, industry and the environment. SOKHNA360 is at the forefront of a new era of industrialisation, enabling companies to thrive in the local and global marketplace.



# A fresh look and enhanced user experience – new Iskraemeco website

Anja Babič

[www.iskraemeco.com](http://www.iskraemeco.com)



We are proud to have launched the new Iskraemeco website in April. Our team has put in a lot of effort to create a website that is not only user-friendly but also packed with valuable information for our customers and visitors.





## Luis Goncalves, CEO of Iskraemeco Group, appointed as new president of ESMIG

Smilja Dolgan Paternoster



**We are excited to announce the appointment of Luis Goncalves, Chief Executive Officer and Executive Board member of Iskraemeco Group, as the President of ESMIG. Luis is already an active member of ESMIG's Executive Committee, having served as its vice president for the past six months.**

His first thoughts as ESMIG President were: "ESMIG is an association that represents European industry and European countries in supporting critical infrastructure to manage the current and long-term challenges in the energy sector. We are committed to supporting the association in achieving its objectives and collaborating with authorities and other members to build reliable and sustainable infrastructure in Europe."

ESMIG is an important European organisation that supports the energy industry, governments, and countries of the European Union by managing and safeguarding mission-critical infrastructures. The Executive Committee, under the leadership

of the President, is handling operational challenges to maintain the Association's smooth operation, as well as playing a strategic role in directing ESMIG's work plan, activities, and goals. This collaboration ensures that ESMIG continues to support a clean, fair, and smart European energy transition that contributes to the creation of a competitive energy market through the development of architectures and open standards that permit the efficient implementation and integration of new energy management technologies and services.

The energy business is undergoing a massive transformation and plays an essential role in addressing the climate crisis. In the last two decades, much has been said, but few actions have been taken. Each of us has not only a duty but also a responsibility to act for the prosperity of the whole society. No future exists without change, commitment, and stakeholder participation. Digital technology and demand response are today's vital areas for the transformation of the energy industry. And smart meters, as well as data-based services and solutions, are necessary because they can significantly contribute to energy

security and affordability while fostering a greener, more consumer-centric system. The moment has come to unleash the tremendous potential of energy data. With smart energy solutions already in place, we are now ready and able to respond to the needs of the energy transition while having a positive impact on savings and consumer costs.

Iskraemeco, ESMIG and all stakeholders must support and promote European energy economy to overcome the current challenges, ensure reliable and sustainable infrastructure, and keep up with the demands of a changing world. While dealing with massive amounts of sensitive data, we must accelerate the development of an energy environment that renders energy greener, more affordable, and more reliable. Simultaneously, we strive to establish a fair playing field for collecting, storing, and using data responsibly to protect individuals' privacy.



## Two silver awards for Iskraemeco's innovative achievements

Mateja Kuralt

**The silver awards validate our excellence and innovativeness, resulting from the collaboration and expertise of our professionals. The awards were presented as part of the recognition for the best innovations in the region by GZS – Gorenjska Regional Chamber of Commerce, in collaboration with supporters of INOVativnost, MGTŠ and SPIRIT Slovenia. We would like to share some insights on the innovations with you.**

### Edge computing platform in a digitalised IoT environment

The Edge computing platform is a revolutionary platform that enables the digitalisation of the grid and the transition to advanced energy services. With its versatility and application of machine learning and artificial intelligence, this platform enhances smart energy meters, serving as a data source and accelerator for advanced

energy services. Its key advantage is the open development and technological platform, which fosters an innovation ecosystem beyond the power industry domain. It enables synergies among different sectors and promotes innovation advancement in a broader scope.

### Robotic cell for smart meter testing

Developed by our Manufacturing Engineering team, the innovation Robotic cell for smart meters testing represents a remarkable step in automating the manufacturing process. In today's world, robotics has become an indispensable part of serial production, ensuring high product quality, cost efficiency and increased productivity. With the investment in the robotic cell for automatic testing of electronic circuits, we have achieved automation that goes beyond standard robotic methods. The innovation represents a significant step forward in our efforts to continuously improve production quality and efficiency.

### Innovations paving the way for digitisation and automation

At Iskraemeco, we are proud to have received these awards as they validate our role in innovation in the energy and metering industry. Promoting innovation is a fundamental pillar of our business strategy, as we believe that innovativeness is crucial for long-term success and competitiveness. Through continuous investment in research and development and collaboration with top experts, we strive to create innovative solutions that will shape the future of the energy sector.

The employees at Iskraemeco take pride in these achievements, contributing to sustainable development and addressing modern challenges. We will continue to channel our knowledge and experience into developing comprehensive solutions that meet and exceed the specific needs of customers in energy and water management, while preserving the quality of life for future generations. Together, we will continue our innovative work, contributing to the development of advanced technological solutions and building a more digitalised and automated future.



## We hosted delegations from Kranj and Colorado Springs

Nina Merše

Iskraemeco recently had the pleasure of hosting a group of esteemed visitors, including the Mayor of Kranj, Mr. Matjaž Rakovec, and his delegation, as well as the Mayor of Colorado Springs, Mr. John Suthers, and other distinguished guests from the state.

As Kranj and Colorado Springs are sister cities, we were honored to welcome them to our premises and show them our innovative projects.

Our guests had the opportunity to gain a firsthand understanding of our business operations and witness our team's dedication and hard work in action. They were given a tour of our cutting-edge production facilities and had the chance to see our sustainable project, Green Penguin, which demonstrates our unwavering commitment to promoting a greener future.

The visit was a resounding success, and we are proud that our efforts to innovate and promote sustainability have caught the attention of such esteemed figures. It was an excellent opportunity to showcase our contributions to the industry and community and to continue building strong relationships with community leaders and industry peers.

At Iskraemeco, we remain committed to creating a brighter future for all, and we look forward to collaborating with partners who share our vision. Hosting such distinguished visitors has reinforced our belief in the importance of sustainable practices and innovative solutions, and we are eager to continue pushing the boundaries in these areas.



Iskraemeco had the honour of hosting African officials during the 12th annual International Africa Day Conference, which was held in Brdo, Kranj.

The event, focused on Climate Security for the Future, is important for Iskraemeco as the Africa region is a key market for the company, and the topic is consistent with our commitment to sustainability.

As a global company, we recognise the urgency of addressing climate change and the need for immediate action. We were privileged to have African officials visit our premises in Kranj and engage in discussions on concrete steps we are taking toward sustainability and environmental stewardship. Our commitment to sustainability is evident through our eMobility initiatives and the Green Penguin project, both of which aim to promote sustainable practices and minimise negative environmental impact. We believe that all stakeholders, including businesses, play a vital role in protecting our planet and securing a brighter future for generations to come.

## Hosting African officials during the 12th annual International Africa Day Conference

Smilja Dolgan Paternoster





## Successful implementation of the robotic hackathon "Industrial Robotics Days 2023"

Mateja Kuralt

As a company committed to innovation we were a sponsor of the robotics hackathon at the Faculty of Electrical Engineering. Together with the Robotics Laboratory – Robolab, we prepared a challenge that tested the creativity and knowledge of students.

Students from the Slovenian faculties of FE, FRI, FS, FMF competed in a challenge related to the manipulation and packaging of products, which represents only one piece in the mosaic of automation and robotisation of the production line. They are aware that automation and robotics are the reality of the present and even more so of the future. Throughout the competition, they exuded ambition, competitive spirit and the desire to present the most effective and innovative solutions to the problem.

We believe in the importance of supporting the development of young minds and encouraging the next generation of engineers and innovators therefore we were impressed by all the inventive solutions and projects presented by the students.

Congratulations to the participants who all impressed the expert committee with their solutions. Congratulations, in particular, to the victorious team, whose innovative solution won our competition.



Green Penguin made a special appearance at the recent Hack4Climate Hackathon organised by Care4Climate and the Municipality of Kranj in Kranj, Slovenia. The event brought together 39 young people from 14 countries to tackle an international challenge: Can we live without cars? The young participants were tasked with developing sustainable mobility solutions that could reduce the need for cars and promote greener modes of transportation.

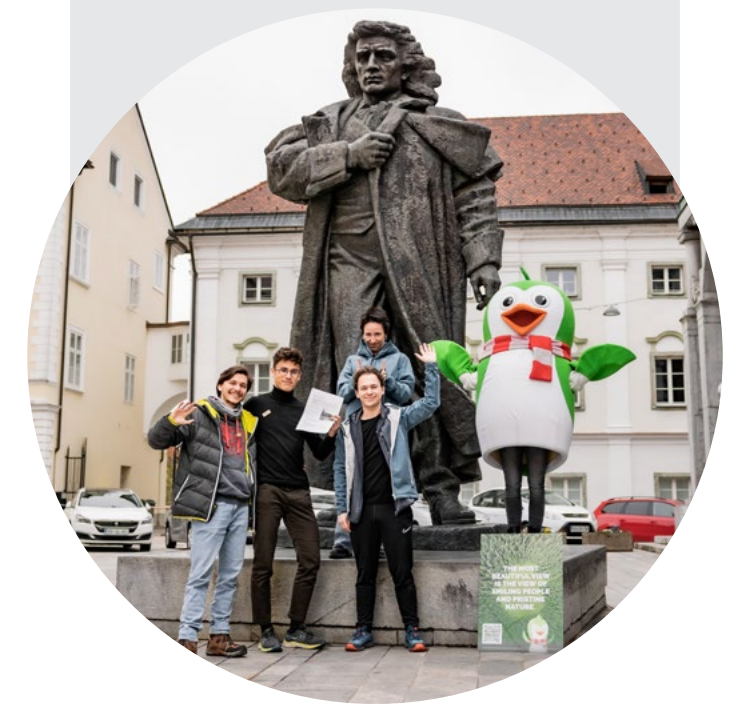
The hackathon was part of the Life IP Care4Climate project, which aims to encourage the use of bicycles, public transportation, and alternative modes of transport. The hackathon also introduced the Green Penguin, a combination of digital technology and gamification to promote environmental and digital awareness among residents.

The Green Penguin was a big hit at the hackathon. He inspired and supported the young participants as they worked on their sustainable mobility solutions. The involvement of the Green Penguin was a great source of inspiration for the young participants, who took photos with him and shared them on social media. The Green Penguin was also a reminder of the importance of working together to tackle climate change and the role young people can play in shaping a more sustainable future.

The Green Penguin is a symbol of Iskraemeco's commitment to promoting sustainable practices and reducing carbon emissions. Through the Green Penguin project, Iskraemeco is working to improve energy efficiency and promote the use of renewable energy sources. We look forward to continuing our work with Care4Climate and other partners to promote sustainability and reduce carbon emissions.

## Iskraemeco's Green Penguin inspires young minds at Hack4Climate Hackathon

Mateja Kuralt



Today, the Green Penguin project is being implemented by a consortium of companies, namely: Iskraemeco, d.d., the City of Kranj, the City of Ljubljana, the Association DOVES-FEE Slovenia and FEE Norway who are implementing the international Eco-Schools programme. The project is co-financed by the Norwegian Financial Mechanism and Ministry of Cohesion and Regional Development. The Norwegian Financial Mechanism stands for Norway's contribution to a green, competitive, and inclusive Europe.

Source: photos D'Agency



## Slovenian ambassador Mateja Vodeb Ghosh visits Iskraemeco India in Kolkata

Anja Babič

**We hosted Slovenian Ambassador Mateja Vodeb Ghosh from the Embassy of the Republic of Slovenia in New Delhi, India. The Indian management team of Iskraemeco welcomed her for a visit to the Technology Design Centre and a discussion on various interesting topics.**

The Ambassador showed keen interest and provided valuable suggestions on the proper use of office space to maximise the well-being of employees and the organisation. The discussion revolved around the various aspects of data security and certain central and state government policies that can be of great benefit to Iskraemeco in India. She stressed the importance of providing comprehensive, hands-on training, creating equal opportunities in the workforce, and most importantly, helping those in need, not for the sake of return on investment, but for the good of society.

Ms. Vodeb Ghosh also spoke about her own life in Slovenia and the differences and similarities she has found with the Indian way of life. Towards the end of the talk, as a sign of love and respect, we gifted her with a bronze statue of Goddess Durga, the ultimate symbol of the power of femininity and feminism.

This visit underscores the need for the private and public sectors to work together to address the challenges that impact us all and share a common view towards sustainable and friendly future.



**We have successfully hosted our very first Partner Event in the LATAM region, focusing on exploring new opportunities in water and electricity solutions and showcasing our latest portfolio for the region.**

At Iskraemeco, we believe that effective collaboration between partners is the key to tapping into new opportunities, so we discussed the future of water and electricity management with our Latin American partners and shared our strategy for the region's next few years.

We recognize that our partners play a crucial role in our mission to create a more sustainable future, so we are thrilled to have been able to strengthen our relationships with them at this event. The event also provided an opportunity for reviewing the newest technologies, trends, and challenges in the industry and sparked a discussion on how we can collaborate to develop innovative solutions for pressing water and electricity management challenges. We discussed and shared insights, best practices, and success stories that encourage positive change in the region.

## Hosting first Partner event in Latin America

Smilja Dolgan Paternoster





## Addressing smart energy solutions in the Cyber Resilience Act

Nina Merše



### Anže Zaletel, Information Security Officer at Iskraemeco and Chair of the ESMIG Cybersecurity Task Force, was part of preparing ESMIG position paper for Cyber Resilience Act.

Following the release of the proposed Cyber Resilience Act, ESMIG shared their thoughts, concerns, and recommendations outlined in a position paper, addressing issues that impact smart energy solution providers.

Global and European organisations, regardless of whether they are part of the governmental sector, critical infrastructure, or private businesses, are subjected to an increasing number of cybersecurity risks. With this in mind, ESMIG recognises that both technical implementation and implementation of horizontal regulatory acts are needed to address rising and ever-evolving cybersecurity risks.

As such, based on emerging cybersecurity threats, smart energy solution providers and smart metering product manufacturers, aware that their products are used as part of mission critical infrastructure, have developed a robust and a highly secure advanced metering infrastructure, assuring a high level of confidentiality, integrity, availability and trust between all critical components.

Legislators have also recognised the need to address evolving issues and have in recent years adopted high security requirements for several types of products, devices or software. Namely, for smart energy solutions, there are several legislative and regulatory acts, with which smart metering products, solutions, and the industry must and will have to comply including the Measurement Instrument Directive, the Cybersecurity Act, the Radio Equipment Directive's new Delegated Act, the Network Code on Cybersecurity and the Cyber Resilience Act.

As a result, ESMIG would like to emphasise that it is crucial that obligatory acts, their security requirements, and related obligatory product assessments, do not overlap or compete with one another, causing confusion, misinterpretation, and unnecessary high implementation costs for smart energy solution providers and manufacturers.

As stated by Anže Zaletel, Chair of the ESMIG Cybersecurity Task Force and Information Security Officer at Iskraemeco, "While we welcome any action to improve the cyber resilience in products and address the cybersecurity risks, it is key that the legislation does not become a burden for manufacturers, and continues to enable innovation. While we recognise the many benefits that the Cyber Resilience Act brings, there are areas that must be

further clarified and addressed in order to support the smart metering industry."

Main recommendations and considerations, proposed by the ESMIG are:

- Recommendation I: involve the smart meters industry sector in the introduction of a transparent cybersecurity risk assessment methodology and framework with the aim to classify products according to risk level.
- Recommendation II: involve relevant stakeholders in any risk assessment to support the European Commission in defining which Class specific IT systems or products will belong to.
- Recommendation III: enable the use of EUCC based cybersecurity certification to be used as proof for conformity with security requirements in product-oriented legislation such as the MID and RED.
- Recommendation IV: introduce a clear definition of "users" in Article 11, point 4.
- Recommendation V: Article 11 obligations and requirements must be addressed through the cybersecurity risk-based approach.



## Iskraemeco at the 42<sup>nd</sup> International Conference on the Development of organisational Sciences

Mateja Kuralt and Nina Merše

### At Iskraemeco, as well as in many other organisations, we are faced with a growing amount of data on the basis of which we can make business decisions. With much of this data coming from measurement, the demands of employers and decision makers at all levels are becoming increasingly multidisciplinary.

The effective use of data and knowledge that companies and their professionals need in order to analyse them and make decisions, comes from industry-specific competencies that ensure a better future.

The Office of Metrology of the Republic of Slovenia and the Faculty of Organisational Sciences Kranj hosted the event The Interdisciplinarity of Metrologists Counts as part of the 42nd International Conference on the Development of Organisational Sciences. Aleš Potočnik, Director of the Technology Design Center at Iskraemeco, was present at the conference and spoke about the importance of establishing a

data-driven decision-making process as a prerequisite for the economic efficiency of an organisation.

In the roundtable discussion on data and decision making, Aleš discussed the question of how to use one's intuition and experience versus when to rely on data and facts. He focused on developing a data-driven culture within an organisation. He also discussed the talents a meteorologist must possess in order to provide high-quality data and the skills a decision maker must possess to make decisions quickly and effectively.

One of the speakers was Maks Prokop, Senior Director of Law and Compliance, who gave a speech on the topic "Interdisciplinarity in the economy counts!". Maks emphasised the importance of the rapid development of technology and the needs of the markets require constant and accelerating changes in work processes. As certain traditional occupational profiles are no longer suited to the needs of companies, new profiles are emerging, often with qualifications that are not yet available or that require a combination of several disciplines. Businesses are also increasingly

faced with complex tasks and projects that necessarily require the collaboration of experts from different organisational units and different disciplines. All these forces companies to innovate and to cooperate with educational institutions, which can offer tailor-made training or organise training programmes for their own employees and create new profiles.

The event emphasised the value of knowledge and skills in a national and international environment for better and broader development of people, organisations, and society. We must adapt the education system to meet these demands if we are to ensure an effective economy and society as a whole. It is widely acknowledged that achieving success is not simple and that those who look for opportunities rather than problems in order to efficiently achieve their objectives are, in the end, the most successful.



## Iskraemeco at Enlit Africa 2023: Paving the way for a greener future in Africa

Alyaa Sakr

**Iskraemeco participated in Enlit Africa 2023, showcasing our solutions for energy, water, digital platforms and eMobility. Our booth attracted a diverse range of visitors, including esteemed partners and valued customers, who engaged in enlightening discussions about the future of energy management in Africa.**

The fair, formerly known as African Utility Week, is a great opportunity for business partners, utilities, and municipalities to meet in person to discuss mutual interests and the latest solutions from all over the world. The 2023 edition of Enlit Africa was without a doubt the busiest, most vibrant, and dynamic of all editions. Following last year's post Covid-19 restrictions, this year participation rose to an incredible level. An inspiring convention where industry experts and opinion leaders gathered in Cape Town for the ongoing discussion on how to transform the face of energy consumption and management in Africa for a better, smarter, and more sustainable future for all Africans.

Ihab Mokhles, Managing Director of Iskraemeco in Africa, expressed his satisfaction with how well this year's event was organised. "Iskraemeco is a key player in the African market, and we are always delighted to return to Cape Town. To be a part of Enlit Africa is a privilege and an opportunity not to be missed, for business matchmaking and bringing an innovative, smarter future to Africa."

Our software business suite Symbiot alongside with other smart metering solutions was very well received and created a buzz across the floor, particularly the latest solution – grid flexibility, which manages electricity demand on the grid and applies revenue protection, all while reducing load shedding and damages of the grid. Our technical team received numerous enquiries about our solutions, ranging from electric and water metering systems to this innovative option, which proved quite popular with participants and business partners.

Furthermore, we had the pleasure of hosting the utility CEO forum at our stand, which brings together all C-level executives from the world's largest corporations. It was an excellent opportunity to discuss business and future strategies with our partners.



**The European Commission has approved our ENFIELD project under the Horizon Europe call. Congratulations to all of you who participated in the project application, it is a great success!**

The project will involve 30 consortium partners from 18 European countries, including top education and research organisations, large companies, SMEs and representatives from the public sector. Iskraemeco will manage the energy vertical together with the Portuguese utility EDP.

Together, we will create a unique European Centre of Excellence that excels in fundamental scientific research on the deployment, development, and adoption of AI in Europe. We will address critical frontier issues in research and innovation in the fields of health, energy, manufacturing, and space. In the project, Iskraemeco will take care of introducing artificial intelligence into the electricity transmission system.

By carrying out cutting-edge research activities in synchrony with industry challenges, we will strengthen the European Union's competitive position in the field of AI and generate a significant socio-economic impact for the benefit of European citizens and businesses.

ENFIELD will provide high-impact outputs such as more than 75 unique AI solutions (algorithms, methods, simulations, services, datasets, and prototypes), 180 scientific high-impact publications and 200 peer-reviewed presentations, 4 strategic documents, namely the Common Research Roadmap and Vision, the dynamic Safety and Security Risk Assessment Framework, the White Paper and the Gender and Ethics Framework.

Programmes that will be facilitated:

- Exchange and innovation schemes and innovations for more than 76 individual researchers and 18 small-scale projects.
- Education and training activities, such as summer schools and hackathons.

A set of well-designed outreach methods and activities will further contribute to the ENFIELD community engagement, enlargement, and continuity.

## Iskraemeco obtained a tender for the European Centre of excellence

Tomaž Dostal and Nina Merše





## Iskraemeco India expands with a new office in Kolkata: A step towards enhanced efficiency and customer satisfaction

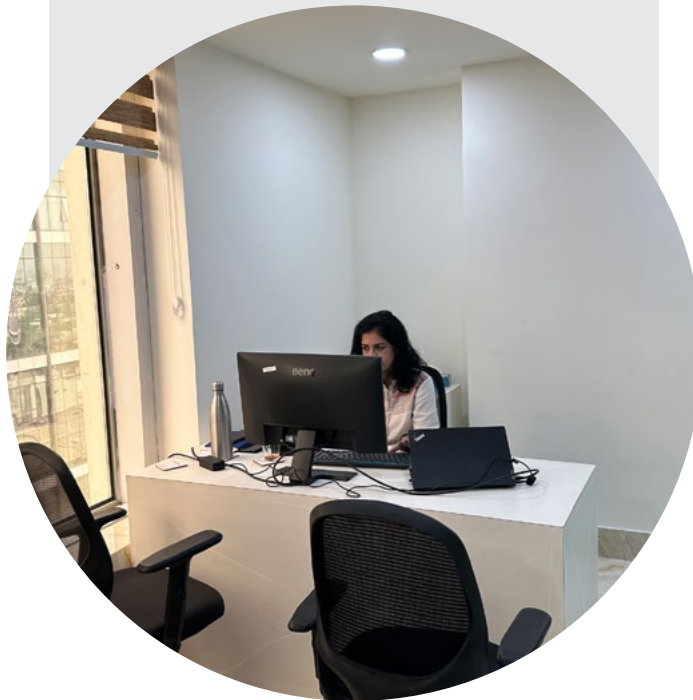
Madan Mohan Chakraborty

Iskraemeco India's expansion with the new office in Kolkata marks a significant milestone in the company's growth journey. The strategic location, enhanced efficiency, customer-centric approach and focus on employee well-being collectively reinforce Iskraemeco's commitment to delivering unparalleled services. As Iskraemeco continues to thrive and expand its operations, the new office in Kolkata will undoubtedly play a pivotal role in solidifying its position as a leader in the energy metering industry. With this latest development, Iskraemeco India is well-poised to shape a brighter and more successful future.

Iskraemeco's new office is situated on the 8th floor of the prestigious Webel IT Park, Tower 1, in Sector-V of Salt Lake City, Kolkata. Known as the IT hub of the city, this location provides easy accessibility and a vibrant work environment. The proximity to other tech companies and the availability of modern amenities makes it an ideal choice for Iskraemeco to establish its presence in Kolkata.

The expansion of Iskraemeco's office space is aimed at facilitating smoother operations and improved collaboration among team members. With a larger workspace, the company can now accommodate a growing workforce and provide a conducive environment for creativity and innovation. The spacious and modern work environment promotes a healthy work-life balance, boosting employee morale and motivation, and will provide ample opportunities for training and career advancement, empowering employees to reach their full potential.

Iskraemeco's commitment to customer satisfaction remains unwavering, and the new office in Kolkata is a testament to this dedication. By establishing a local presence, the company aims to serve its customers in the region more effectively. The proximity to clients will facilitate faster response times and enable Iskraemeco to better understand their unique requirements. This enhanced proximity will also foster stronger relationships with local stakeholders, ensuring that Iskraemeco continues to provide tailored solutions and exceptional service to its valued customers.



At the beginning of June, Iskraemeco had the great honour of hosting the Ambassador of the Republic of Slovenia, Mr. Alain Brian Bergant, at its factory in Argentina. Accompanied by Tomás Kastelic, in charge of economic and consular affairs, the visit was of great importance for both parties. Iskraemeco s.r.l. is the only company in Argentina with direct Slovenian capital, which aroused the interest of the consular delegation to get an insight into our activities.

Ambassador Bergant received a comprehensive tour of our industrial facility. The Iskraemeco team on site took the opportunity to present our production lines and explain the value added by our employees. They explained the different operations in our plant and showed the configuration, testing and control instruments for our electricity meters. These instruments allow us to provide exceptional products to the Argentine market.

The diplomatic delegation listened attentively to the presentations on Iskraemeco's presence in Argentina and the wider Latin American region and expressed their willingness to support joint promotional activities in the countries of their presence, including Brazil, Paraguay, Chile and Peru. The conversation highlighted various aspects of the Slovenian presence in Argentina, such as the large Slovenian community, which at 19,000 people is the second largest outside of Slovenia, surpassed only by the Slovenian population in the United States of America.

Of particular interest during the visit was the ambassador's interaction with our dynamic and predominantly young workforce. In cordial and direct conversation, he addressed topics such as education, studies and projects, fostering a sense of camaraderie and shared purpose.

Before departing, Ambassador Bergant extended a warm invitation to Iskraemeco to participate in the Declaration of Independence Day activities. This event promises to reunite spirits and further strengthen the ties between Slovenia and Argentina.

## The Ambassador of Slovenia visits the Iskraemeco factory in Argentina – Strengthening diplomatic and commercial ties between nations

Luciano Gonzalez





## Celebrating equality: The colours coalesce us all

Payel Roy Chowdhury

A personification of diversity in the truest sense, Holi, the most popular festival in India, is also called the festival of colours. With the advent of spring and the harvest season in March, the atmosphere turns kaleidoscopic, and hearts fill with colours of joy. The colours do not differentiate between age, caste, creed, class, culture, religion or region. Colours unite. People come together and imitate the colours of spring by smearing coloured powder on each other. Iskraemeco in India follows it wholly in spirit and practice.

Festivals in India are steeped in legends and tales, worship, and fun. Each year, a get-together is arranged, and the Iskraemeco employees in the India office attend with their families. 'Abir' or 'gula' (coloured powder) is smeared on each other; children joyously splash coloured water at each other with their 'pichkaris'. Delicious food is served, and the employees and family members participate in several interesting games.

Holi celebration in the office fosters a sense of oneness and belongingness to the company. The Holi gathering not only brings Iskraemeco's employees closer but also gives them a chance to get their families introduced to each other too. A day full of fun and togetherness is both desirable and essential to enlivening the spirits.

Iskraemeco supports the importance of fostering diversity, equality and inclusion within its team and operations. The celebration of Holi is just one example of cultivating a work environment that values and celebrates the uniqueness of every individual. It serves as a reminder of the power of unity, respect and the richness that diversity brings to the workplace, ultimately leading to increased collaboration, innovation and success for Iskraemeco and its employees worldwide.



## Iskraemeco embraces young talents: Visit of Eng. Ahmed El Sewedy, President and CEO of Elsewedy Electric

Mateja Kuralt

More and more companies are realising the significant value that young people bring to the table. Their fresh perspectives and digital fluency play a pivotal role in unlocking new opportunities and driving innovation. Recognising this, Iskraemeco has embraced the potential of these young talents, understanding that by harnessing their skills and ideas, they can foster a culture of creativity and forward-thinking that sets them apart in the market.

It was a great opportunity to talk about this matter in the recent visit to Iskraemeco in Kranj by Eng. Ahmed El Sewedy, President and CEO of Elsewedy Electric, where he also discussed the company's strategies, opportunities and business developments. He dedicated a part of his time to meeting and engaging with the vibrant community of young talents within the organisation. The focus of the discussions centred around the importance of empowering these young talents and providing them with a platform to express their creativity and innovativeness.

Eng. Ahmed El Sewedy, a visionary leader himself, emphasised the importance of seizing every opportunity to collaborate, share ideas and challenge the status quo. By doing so, these young talents can create a profound impact, both within Iskraemeco and the wider industry. The visit from Eng. Ahmed El Sewedy serves as a testament to Iskraemeco's commitment to fostering a culture of innovation and continuous improvement. By recognising the immense value of young talents and providing them with the necessary support, Iskraemeco sets itself on a path to success and reinforces its position as a leader in the industry.

The significance of Iskraemeco's dedication to empowering young talents extends far beyond individual growth. It has the potential to shape the future of the energy industry itself. By embracing their unique talents and perspectives, Iskraemeco aims to push the boundaries of what is possible, constantly striving to create a brighter and more sustainable future for all.





## Building bridges of collaboration: Empowering students with enriching company visits for stronger educational alliances

Nina Merše and Mateja Kuralt



**Collaboration between educational institutions and companies is crucial for the development of professionals who have relevant skills, which ultimately improves their employability. We have received the recognition from various school centres and faculties, as we provide students with a valuable understanding of our operations, processes, products and solutions.**

### Enriching experiences for students

Our company's commitment to fostering strong cooperation with educational institutions has resulted in a series of successful career fairs. Furthermore, we actively engage with student groups from different schools, presenting our company, work, and programmes to them. Over time, we have had the pleasure of welcoming numerous student groups to our premises in Kranj, including students from the School Education Centre in Ljubljana, students from Montenegro participating in the exchange programme, students from the Technical High School in Koper, and students from the School Centre in Kranj and B&B Higher Vocational College. These career fairs and visits have provided valuable

opportunities for us to share insights, offer guidance, and inspire the next generation of professionals.

During the visits, we also provide students the opportunity to observe our production processes, logistics, and mentorship programmes, and to participate in insightful presentations about our product portfolio and innovative solutions. By immersing themselves in our company's operations, students can bridge the gap between theoretical knowledge and practical application, gain new experiences, valuable insights, and the chance to participate in real-world initiatives.

### Supporting the next generation of engineers

Our company is deeply committed to supporting the personal development and career advancement of future generations of engineers. We actively contribute to improving their skills and employability by sharing our knowledge and areas of expertise. Students not only gain exposure to real-world programmes but also develop a practical understanding of the complexities involved in our company's operations through their visits to our facility.

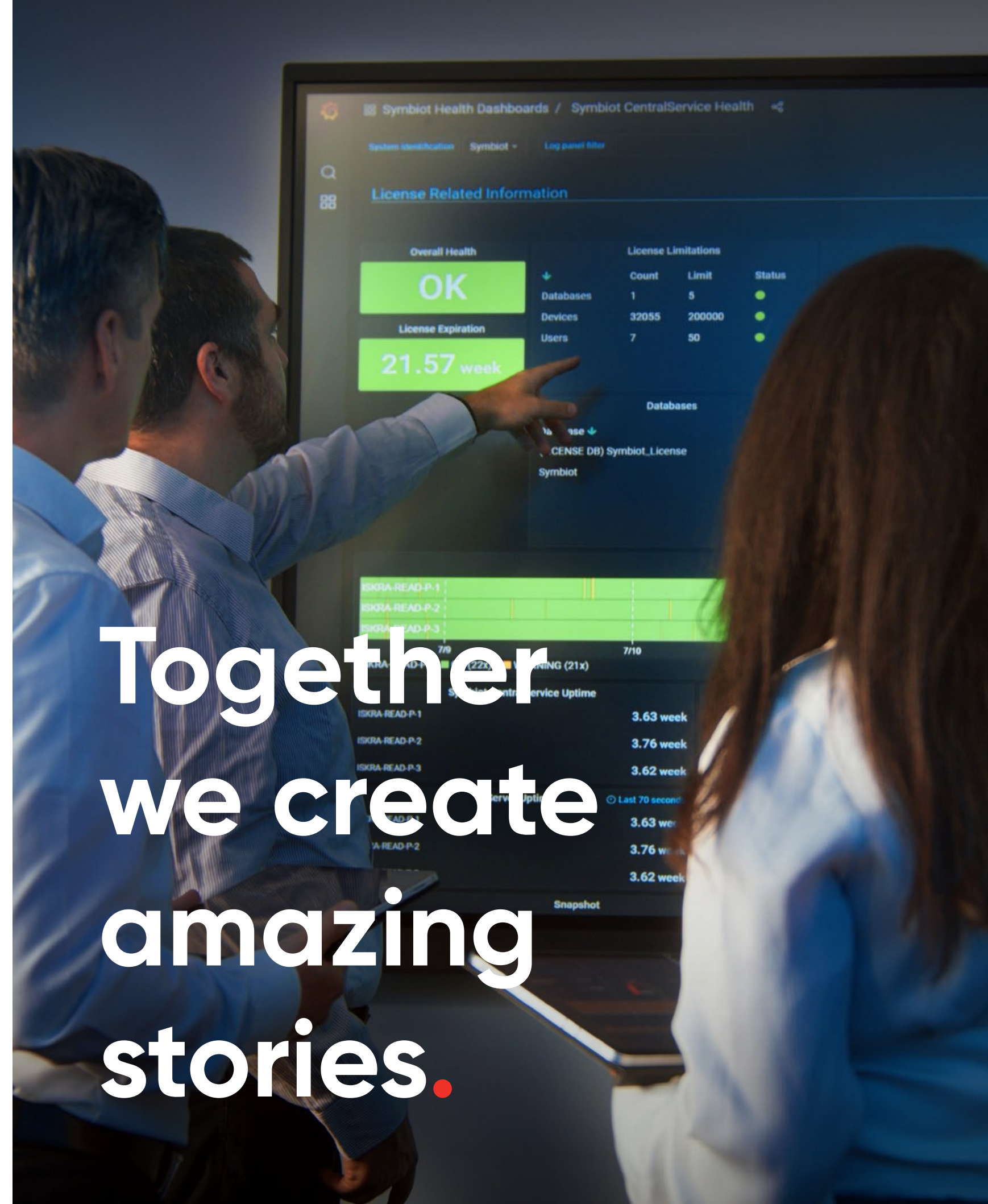
We actively seek opportunities to collaborate with schools and faculties to provide their students with potential opportunities for engagement and skill development. By offering a realistic look at our operations and career prospects, we aim to empower students to make well-informed decisions about their future path. Our goal is to create a symbiotic relationship between academia and industry, where students benefit from hands-on experience and companies gain access to a pool of talented individuals.

We are contributing to the growth and development of the next generation of engineers, and we look forward to future collaborations with the brightest minds in the industry.



*"Long-term and stable cooperation between Iskraemeco and schools and faculties, is crucial for the research and development of cutting-edge technologies, for the development of knowledge and talent, and for the impact of young innovative students on changes in the environment and society."*

**Nena Hribar**  
Head of Human resources



# Together we create amazing stories.



### Emad Ghaly visits Iskraemeco in India

Executive Chairman of the Board of Iskraemeco Group, Emad Ghaly, and his team visited the Iskraemeco offices in Kolkata. Together with Managing Director of India, Madan Mohan Chakraborty they addressed the team. During the meeting, Emad placed great emphasis on the significance of customer satisfaction and the pursuit of comprehensive, end-to-end solutions. He shared his vision for the future, identifying eMobility and Smart Water as emerging markets that hold immense potential in India. By leveraging the potential, Iskraemeco endeavors to make a lasting impact on the Indian market while upholding their core values of innovation and customer-centricity.



### Reaffirmed partnership and collaboration between Iskraemeco and Lackmann

We are extremely delighted to reaffirm the excellent partnership and collaboration between Iskraemeco and Lackmann for the past 50 years. Both companies are extremely dedicated to promoting innovation and reliability, as well as driving and developing sustainable services. Together, we are committed to delivering cutting-edge solutions for strengthening and modernising energy infrastructure in Germany.

### Bahaa Abdullah a guest on Bloomberg Adria

Bahaa Abdullah, our Chief Financial Officer and Executive Board member of Iskraemeco Group, was able to provide many interesting insights in the interview for ZOOM, the show on Bloomberg Adria. Iskraemeco's success is deeply connected to the Slovenian business environment and its opportunities. In an interesting interview, Bahaa discussed foreign investments in Slovenia, their benefits, and opportunities. He addressed the economic outlook and prospects in Slovenia, as well as technology, processes, and labour, and how the Slovenian government supports these endeavours.



### DISTRIBUTECH International 2023, California

We witnessed the emergence of a number of digital trends, including grid management systems and smart charging for electric vehicles. At the conference numerous visitors provided us with positive feedback on the grid flexibility solution that we showed. Together with the DLMS User Association we were able to present our innovative solutions and open the doors to the North American power grid business.



### Sustainable supply chain management

The issue of environmentally conscious supply chain management was one of the many topics covered at the conference Academy Green Slovenia. Iskraemeco was an example of best business practices. Gašper Binter, Area Director of Strategic Procurement at Iskraemeco, gave a detailed and informative presentation about Iskraemeco's noteworthy endeavors in the realm of supply chain management.



### Attending the Woman in Energy '23 event

Our colleague Mateja Novak Resman, Director of Service and Delivery, as one of the presenters at the event talked about design management in various processes throughout the company and what it takes to shape solutions according to actual customer needs. "By incorporating design management into the Iskraemeco organisation, we are able to respond to the challenges of green transformation with innovative solutions that deliver the best user experience."





### Part of e-mobility expo of the American University in Cairo

The e-mobility movement in Egypt is on the rise and we couldn't be more excited to be part of it. At the e-mobility expo at the American University in Cairo we showcased our different solutions for electric vehicles, from home charging to public stations. Moreover, this has given us the opportunity to meet and connect with researchers, engineering students, startups as well as other companies – all engaging in the discussion around sustainable transport and greener future.

### Preparing for sustainable business in the economy

With the goal of educating and sharing practices, the Association for Information Technology and Telecommunications, one of the industry associations of the Chamber of Commerce and Industry, organised an online seminar entitled Preparing for Sustainable Business Practices in Business. Lara Šarabon Štojs, Independent Sustainability specialist, presented Iskraemeco as an example of good practice. She pointed out that at Iskraemeco we are aware of our responsibilities and strive for a more sustainable future through our operational activities, our supply chain, and our partnerships.



### Congratulations on Women's Day from the Management of Iskraemeco Group

On International Women's Day, Emad Ghaly, Executive Chairman of the Board of Iskraemeco Group gave a little surprise to ladies working in Iskraemeco. On the occasion Emad Ghaly said: "Today is an opportunity for me and the entire board to honour and recognise the roles, positions, and importance of women in the workplace, society, and family as being a mother, wife, daughter, colleague, or a friend. You are all important to us personally and to our company either on the management side or the factory floor side. I encourage each woman to have the confidence to pursue her dreams. Don't ever forget that you are appreciated, make your own choices, and never stop trying to succeed."



### Sharing expertise on smart meters with students at Faculty of Electrical Engineering

Our colleague Andrej Ciglič, Head of Design House, gave a lecture at the Faculty of Electrical Engineering in Ljubljana, Slovenia. He elaborated on the role of the electricity meter as an IoT device. "We believe in sharing our knowledge and experience with the next generation of engineers, and the Faculty of Electrical Engineering provides us with the perfect platform to do so," said Andrej. During the lecture, students had the opportunity to learn about the different features of smart meters and ask questions about their development and implementation.



### Gorenjska Region Development Forum

Bahaa Abdullah, Chief Financial Officer and Executive Board member of Iskraemeco Group, has been invited to speak at the Gorenjska Region Development Forum in Kranj, Slovenia. During the forum, Bahaa discussed Iskraemeco's future business plans and current activities, as well as our company's cooperation with the local community, benefits, competitiveness, and opportunities in the region. It was an incredible opportunity for us to share our insights and perspectives on regional development with other experts and successful local entrepreneurs.

### Among the TOP10 on social media

Iskraemeco is among Europe's TOP10 most active electrical manufacturing companies on social media. The companies were selected because their engaged employees consistently shared content with their networks. Helping to increase brand awareness, share of voice and other key performance metrics on social media.





## Showcasing our expertise at Aqua Nederland

During Aqua Nederland, the main players of supply and demand of water technology, water management services and knowledge products are brought together. Our team shared valuable insights and knowledge with our booth visitors. The showcase was all about Digital Water Solutions, including our smart water meters, communication modules and our state-of-the-art software suite Symbiot.



## Showcasing our innovative solutions at Municipalia

At the fair held in April in Belgium, officials of municipalities, provinces, and associations meet with solution providers to tackle local and global challenges. Iskraemeco's experts showcased innovative solutions for energy, eMobility, digital platforms, and paid special attention to water solutions. Our top-level water meters enable utilities to better control their network and improve their efficiency, resulting in significant cost savings.

## Visit of the Japan International Cooperation Agency (JICA)

We are extremely pleased to have Japan International Cooperation Agency (JICA) visit our factory in Egypt, where we hosted them as part of our ongoing, productive collaboration. The delegation, which consisted of Kato Ken, Chief Representative, Sano Yoshiko, Project Formulation Advisor, Yasmin Afifi, Programme Officer, was given a tour of the entire factory, including all production areas, the showroom, and the conference centre. They were impressed with Iskraemeco's safety, productivity, and quality measures. The delegation concluded by expressing their desire to expand global cooperation with Iskraemeco.



## Iskraemeco team shines at Nočna 10ka

Our ambitious runners proved unstoppable even at night as they participated in the "Nočna 10ka" running event in Bled, Slovenia. The team from Iskraemeco included twenty runners. The event once again exceeded expectations, as it was lively, fun, and a great social event. Upon crossing the finish line, each runner received a delicious Bled cream cake. Congratulations to all the runners who completed this run!



## Act to restart the digitization of the energy transition

We have attended a conference organized by our valued partner KDK Dornscheidt in Germany with the main theme focused on the significance and impact of the draft of the law "Act to restart the digitization of the energy transition" (GNDEW; Gesetz zum Neustart der Digitalisierung der Energiewende). We recognize the importance of sustainable acceleration of the smart meter rollout and digitization of the energy transition for a secure and sustainable energy supply in Germany. It is crucial to reduce bureaucracy and strengthen legal certainty for all stakeholders involved. While we welcome the draft of the Act, we also believe there is room for improvement to realize the planned energy transition as soon as possible.



## Iskraemeco presents innovative solutions at the Water Loss + Management & Maintenance Conference in Croatia

At the conference, we presented our fully integrated smart water solutions that deliver superior performance and efficiency. These include water meters with communication capabilities, network management services, data collection, data management, and the company's software suite Symbiot. Our colleague Peter Kobal, Business Development Director at Iskraemeco, also gave a presentation on "Using Meter Data Analytics to reduce NRW," focusing on specific solutions integrated with our water meter software.





### Participating in 16th Conference of Slovenian Electric Power Engineers CIGRE-CIRED

As the largest expert event in Slovenian power engineering, this conference is an unparalleled opportunity for industry professionals to connect, collaborate, and explore the latest developments in the field. Our team was excited to showcase our latest solutions for grid management, e-mobility, and street lighting to the attendees as well we had a opportunity to present our unique solution for active load control. The response from the professional Slovenian energy community was amazing, with a lot of interest generated and numerous follow-up meetings after our presentation.



### Sparking interest at HR events

New technologies, trends, changing consumer behaviour, and business models are continually reshaping the industry, creating an infinite number of opportunities for those that want to succeed. Our HR team presented numerous possibilities for student work and employment at several job fairs – Informativa, the EESTEC Job Fair, and the Delo mene išče career fair.

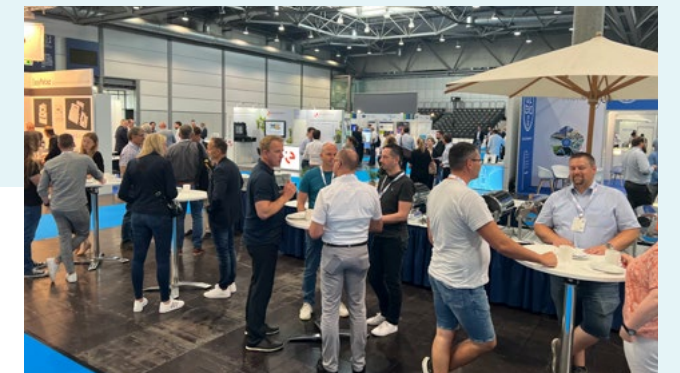
### Presenting cutting-edge energy solutions at E-world 2023

This three-day event, which took place in Essen, Germany, is always an excellent opportunity for us to showcase our cutting-edge energy and water solutions and connect with professionals and experts from around the world. Our team was thrilled to present our latest solutions for grid management, software suite Symbiot, street lighting, and e-mobility to industry professionals.



### Showcasing solutions for electric vehicles at Power2Drive exhibition

The GL Charge team participated at the the Power2Drive exhibition in Munich, Germany, a major international event focused on charging infrastructure and e-mobility. GL Charge's booth became a hub of innovative discussions and demonstrations showcasing its cutting-edge charging technology and commitment to the electrification revolution. Visitors to our booth had the opportunity to explore the future of electric vehicles and sustainable transportation solutions and learn about the latest electric vehicle offerings.



### Highlights from the ZMP Congress

In June we showcased our innovative and sustainable energy solutions at the ZMP Congress in Leipzig, Germany. With advanced grid management solutions, Symbiot software suite, street lighting innovations, and e-mobility solutions, we empower utilities to optimize energy distribution networks, prioritize energy conservation, and facilitate the transition to electric vehicles. We were able to showcase how our offerings aim to create a sustainable future by integrating energy sources, reducing costs, and improving overall energy efficiency.



### International Water Conference Jahorina 2023

We were putting the spotlight on our water solutions and how to empower utilities to achieve their highest performance levels. Attendees were thrilled to have engaging discussions and the opportunity to explore the future of smart water solutions.



# Discover the **Future** of **Energy and Water** with Iskraemeco!

Join us as we exhibit at  
Metering Days, Enlit Europe  
and Enlit Asia!

At Iskraemeco, we are dedicated to revolutionising the industry, and our team of top-tier experts, boasting decades of experience, is eager to share their knowledge with you at the most important events in the field:

- **ENLIT EUROPE: 28-30. November, Paris, booth 7.2.A50,**
- **ENLIT ASIA: 14-16.11, Jakarta, booth 629,**
- **Metering Days: 17-18.10, Fulda, booth 9.**

Our motto, "Innovating for life," perfectly encapsulates our commitment to creating solutions that shape the future and meet the challenges. When you visit our booth, you will witness not only the innovativeness of our products and solutions but also the agility, flexibility, and continuous improvements that set us apart from others. We will showcase real-case examples that highlight the practical application of our solutions, ensuring top-notch quality every step of the way.

Explore the captivating world of energy and water through the lens of Iskraemeco and our innovative solutions. Here is a preview of what awaits you at our booth:

- Explore our comprehensive range of **grid management**.
- Discover the future of **eMobility** and the path ahead.
- Experience **SYMBIOT**, our revolutionary intelligent software suite designed to bring the future's intelligence to today's businesses.
- Delve into our flexible **water solutions**, tailored to meet your unique needs.
- Be inspired by **Green Penguin**, our visionary project dedicated to infusing sustainable actions.

Do not miss the chance to interact with live demonstrations, obtain valuable insights, and investigate the future of the industry.

We eagerly await your presence at our events, and we can't wait to see you there!



// **INNOVATING FOR LIFE.**





[www.iskraemeco.com](http://www.iskraemeco.com)