ISKRAEMECO MAGAZINE



IN THE SPOTLIGHT

Introduction interview: Thomas Petuaud Letang, CEO of Iskraemeco group

IN THE SPOTLIGHT

Iskraemeco launches a new generation of IE.7 C&I meters for commercial and industrial applications

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Editorial

Message from CEO

As I reflect on my first three months as CEO of Iskraemeco Group, I am both inspired and energized by the journey ahead. Stepping into this role in September 2024, I joined a company that already had a strong legacy of innovation, sustainability. and a talented team committed to making a meaningful impact on the world. Over these past few months, I have had the privilege of witnessing firsthand the passion and dedication that fuel our mission: to shape a smarter and more sustainable future. With the support of our employees, partners, and customers, and through digital solutions that enhance efficiency, drive the achievement of sustainability goals, and enable adaptation to growing energy demands, we are well on our way to fulfilling our mission.

From the outset, I made it clear that my vision for Iskraemeco centers on 4 core pillars: accelerating innovation, strengthening our market presence, developing new business (water, e-mobility, software), and fostering a culture of collaboration and excellence. We are at a pivotal moment in the energy sector, where digitalization and decarbonization are reshaping the way we think about energy systems. To succeed in this rapidly evolving environment, we must not only keep pace with change but also lead it.

Furthermore, I believe that consumer engagement plays a crucial role in the energy transition. It is no longer enough to simply provide energy; we must provide the tools and solutions that allow people to understand and control their consumption. By integrating such digital solutions into

ture where technology works hand in hand with environmental stewardship. At Iskraemeco, our vision for the future is clear and focused. We remain committed to advancing smart metering solutions for the energy and water sectors and enhanced grid management systems. We are also actively expanding into e-mobility and focusing on developing new software solutions along with digital platforms like Symbiot to drive further innovation. In an era of rapid change within the energy landscape, these focus areas offer both tremendous opportunities and important responsibilities. Our mission is to empower our customers with data-driven insights that optimize energy and water use, reduce costs, and lower emissions. By delivering innovative, user-centric technology, we aim to provide genuine value to those we serve and contribute to a more sustainable world.

EDITORIAL 🤁

our offering, we are enabling consumers to take an active role in decarbonizing their homes and businesses. This aligns with my commitment to fostering a sustainable future where technology works hand in hand with environmental stewardship. I am also deeply committed to fostering a culture of collaboration and excellence within Iskraemeco. Our success relies not only on the technologies we develop but also on the people behind them. We are working to strengthen our organizational agility and ensure we continue to adapt quickly to customer needs. By investing in our team, promoting continuous learning, and encouraging cross-functional collaboration, we will continue to drive progress and strengthen our position on the market.

Looking ahead, I am confident that Iskraemeco is well-positioned to remain a global leader in energy and water management solutions. With strong market positions in Europe, the Middle East and new opportunities in regions like Africa, Saudi Arabia and India, we are expanding our reach and impact. Together with our employees, partners, and customers, we will continue to push the boundaries of what is possible, setting new benchmarks in efficiency, sustainability, and innovation. I am excited for what the future holds and look forward to working closely with all of you as we embark on this journey.

> Thank you for your continued support, and let's embrace the exciting road ahead.

> Thomas Petuaud-Letang CEO, Iskraemeco Group

Introduction interview: **Thomas Petuaud-Letang**, **CEO of Iskraemeco group**

Smilja D. Paternoster

As Iskraemeco embarks on an exciting new chapter, we are proud to introduce Thomas Petuaud-Letang as the company's new Chief Executive Officer. With a career spanning over 25 years in the energy management, distribution, and manufacturing industries, Thomas brings a wealth of experience and a forward-thinking approach that is sure to shape the future of Iskraemeco. His previous leadership roles have equipped him with deep expertise in driving growth, fostering innovation, and leading global teams.

In this interview, Thomas shares his vision for lskraemeco, outlines his plans to strengthen partnerships, and discusses how he aims to position the company as a global leader in energy and water management solutions, with a strong focus on digital platforms and innovation in the e-mobility sector. Whether you're a partner, customer, employee, or supplier, we believe his insights will offer a valuable perspective on the future of Iskraemeco Group.

Welcome to Iskraemeco, Thomas! Could vou tell us what drew vou to the role of CEO at Iskraemeco Group and what excites you most about leading the company?

I first met Ena. Ahmed El Sewedy in December 2023 in Paris. where he extended an invitation for me to visit Iskraemeco's facilities in Slovenia and Egypt. During these visits, I was positively impressed by the advanced factories and the professionalism of the teams I encountered. I gained insight into the company's strategic goals, which involve not only safeguarding its core business in electricity metering but also actively seeking growth opportunities that align with the global energy transition-an area of great personal importance to me.

After spending some time getting to know each other, Eng. Ahmed and I reached an agreement in May for me to take on the CEO role beginning September 1. This timing allowed me to take a brief vet much-needed break after eight fulfilling years at Schneider Electric.

I strongly believe in the 'walk the talk' and 'talk the walk' approach,

leading by example

open communication.

while maintaining





You have had a diverse career across multiple industries, including your most recent leadership role at Schneider Electric. How did your past experiences prepare you for the challenges of this role?

I have been leading organizations for the past 24 years in highly international environments, across diverse sectors and strategic situations, which has equipped me well for the challenges Iskraemeco faces today. My recent experience with Schneider Electric, along with my board role at Schreder, a street lighting company, has given me valuable insights into the fields of electronics, software, and service solutions. This background positions me strongly to address the opportunities and challenges we are navigating.

You have a backaround in both commercial leadership and technical fields. How do you balance the business and technical aspects of decisionmaking in your approach to leadership?

These two areas are closely interconnected: everything begins with understanding and prioritizing customer needs or pain points. From there, R&D (TDC) focuses on addressing these needs while ensuring our offerings stand out, and then operations steps in to manufacture at optimal cost. I always keep this approach in mind to ensure we maintain proximity to customers and the business environment, focus on the right topics in R&D (TDC) at the right time, and continually improve manufacturing efficiency to secure the best margins, allowing us to invest in growth.

For me, balancing both business and technical aspects in the right sequence is essential for sustainable success.

As the new CEO, what are your immediate priorities for Iskraemeco, and how do you see the company evolving under your leadership in the next few years? Can you share your vision for the future of the company?

My priority, after assessing our strengths and weaknesses, is to secure some large projects we are currently working on.

Next, I need to focus on supporting our growth initiatives in e-mobility and water to ensure they take off in 2025. My third priority is to enhance the quality of service and the competitiveness of our products in collaboration with our operations team. Finally, we need to continue to improve the engagement of our teams and foster collaboration and talent management.

Throughout your career, innovation has played a significant role. What specific tactics do you plan to implement at Iskraemeco to enhance innovation within the company?

Innovation is key for any business, but even more so when facing competition from low-cost countries like China. While we have traditionally differentiated ourselves from Chinese competitors through quality, this is no longer sufficient, as they have made significant improvements in this area. Time to market is also increasingly important, as the clock speed of technology is accelerating.

Moreover, innovation must deliver tangible value to our customers to make an impact and enable us to justify higher pricing. As a result, we will be more selective in our project choices and resource allocation, while also focusing on improving our agility to bring innovation to market faster. I also believe we should explore more strategic partnerships.

Digitalization is transforming industries across the globe. How do you envision leveraging digital technologies at Iskraemeco to improve processes and enhance customer experiences?

Digital technology is a game changer in the energy transition, providing stakeholders, such as homeowners, with real-time data on their consumption and offering remote control over energy use (e.g., electric vehicle charging). It also enables alerts for power outages or overloads. For Distribution System Operators, digital solutions provide live monitoring of their networks and simulate potential impacts, as seen with our digital twin software, Symbiot Twinner. I am convinced that digital innovation can further highlight the importance of smart metering. As solar energy adoption grows in homes, DSOs will need more data on self-consumption, energy storage, and energy resale. Smart meters could play a key role in managing this, acting as an energy management system for these evolving needs.

With your extensive experience in alobal markets. what steps do you see as essential for strengthening Iskraemeco's international presence and competitiveness in today's complex environment?

We hold strong market shares in the countries where we operate, and we are exploring additional services we can offer to expand further within these markets, as well as opportunities to grow in new geographies. We see potential in regions like Africa, Saudi Arabia, and India, particularly in software solutions, and there are a few other regions where we will confirm opportunities soon. To accelerate growth, we will work on further strengthening our commercial setup and partnerships in select geographies.

Can you share a moment in your career that profoundly shaped your leadership style and approach to managing teams?

I led a major transformation at Schneider Electric by implementing Agile methodology across the organization to enhance the impact of innovation and reduce time to market. We took the time to fully integrate this methodology, recognizing it as a significant cultural and organizational shift. Initially, I had to be patient in onboarding and convincing the team to adopt this new approach, as change can only be driven through persuasion, not imposition. Additionally, I adapted my management style to delegate more and empower my team, aligning with the evolving trends in leadership.

Collaboration and teamwork are vital to any company's success. What approaches do you believe will be most effective in fostering a collaborative culture at Iskraemeco and ensuring open communication with employees and stakeholders?

We have many opportunities to enhance cooperation and teamwork within the group, as highlighted by the recent employee engagement survey and reinforced also by my own experiences during the first few weeks at the company.

> Lastly, as a new member of the Iskraemeco team, what message would you like to share with employees, customers, and partners as you take on this new role?

Iskraemeco has a long and rich history, and in 2025, we will proudly celebrate our 80th anniversary. We have built strong expertise and will continue to be a European leader in electrical metering with a solid presence in the Middle East and Africa. We play a crucial role in the energy transition by deploying smart metering solutions in electricity, water and e-mobility. Real-time measurement helps reduce resource consumption and improve efficiency, particularly through the integration of smart grids. We are also expanding our focus on developing software solutions and digital platforms to drive further innovation. Additionally, we are part of the esteemed Elsewedy Electric Group, which supports our ambition. With these strengths, we are not just ready for the future-we are actively creating it.

To address this, we will take a more global perspective on our business rather than focusing solely on individual legal entities, which will help break down siloes. We plan to host 3 to 4 virtual town halls each year. where we openly share our priorities, results, and successes. I strongly believe in the 'walk the talk' and 'talk the walk' approach, leading by example while maintaining open communication. Additionally, I plan to engage more deeply with small groups of employees through coffee sessions or lunches, creating opportunities for more meaningful exchanges with teams I don't interact with as often.

Iskraemeco has a strona commitment to sustainability. How do you see your role in advancing the company's sustainability initiatives and contributing to the global energy transition?

Reducing our carbon footprint is a clear priority for both us and our customers. We have already taken steps, such as using solar energy in Krani, applying recycled materials in our products, and measuring the carbon footprint of our products-an initiative that will soon become a standard. However, we recognize the need to continue working on further reducing our carbon footprint to support the global targets set by COP21 and meet the demands of our customers. We will define and share our five-year ambition shortly.



Iskraemeco launches a new generation of IE.7 C&I meters for commercial and industrial applications

Mariia Iglova Andreuzzi, Abdelhameed Qotb, Karolina Cotič Bratuž

With the rapid integration of distributed energy resources (DERs), rising demand for transparency and control, and the growing strain on aging infrastructure, grid management has become increasingly complex. Additionally, evolving cybersecurity requirements and regulatory compliance pressures our partners to turn to advanced solutions.

The IE.7 C&I smart meters address these challenges by offering better data processing capabilities, modularity, flexible configurations, power quality management, and real-time grid analysis – far beyond basic kWh measurement.

The meters are transformed into multifunctional devices, enabling a wide range of additional applications and services. With improved communication capabilities (Ethernet and fiber optics, cascaded RS-485 and dependent P2P channel), modular architecture, the new IE.7 eloT-ready smart meters offer advanced metering and edge intelligence to improve data management, enable network monitoring, and enhance cybersecurity.





Key features and upgrades of the IE.7 C&I smart meters:

- Focus on advanced data processing and transmission.
- Enhanced communication capabilities (Ethernet, fiber optics, cascaded RS-485, and a dependent P2P channel).
- A field-exchangeable communication module and an extension module with customizable I/Os.
- New power quality indicators.
- Loss calculation features.
- Improved harmonic measurements up to the 31st order.
- Enhanced security with an advanced security suite.
- Edge intelligence for real-time data processing, scalability, and rapid customization.
- Sustainability reduced energy consumption, use of recyclates, fewer components, optimized production energy use, and reduced product weight.

IE.7 meter variants:

IE.7 CT

A commercial and high-consumption meter

Launching in January 2025.

This semi-indirect CT meter is designed for commercial and high-consumption applications, offering 0.5S precision accuracy and features such as grid monitoring, harmonic measurement up to 31st order, customizable I/Os, bistable and solid-state relays, AUX power supply, and an exchangeable battery, as well as IPv4 and IPv6 support for seamless IT integration.

IE.7 RC

A retrofit grid monitoring solution

Launching in March 2025.

The meter with external Rogowski coils is designed for situations where traditional power quality analyzers are difficult to install. It provides insights into power consumption and quality, reduces installation costs, and includes advanced security features at both hardware and software levels. Key measurements include phasor diagrams, harmonics, and four-quadrant power registration.

IE.7 CT/VT

A high-end commercial & industrial meter

Launching in June 2025.

This meter supports fully indirect CT/VT connections, dual voltage ranges, and an AUX power supply for uninterrupted operation. It offers improved harmonic measurements, power quality indicators, loss calculations, and enhanced security, with independent RS-485 and Ethernet channels for reliable data transmission.

MANA MAMAA

Advanced visualization of the following measurements is available in our Symbiot software:

- phasor diagrams with voltages/currents angles,
- harmonics and THD, .
- transformer locations (future plans),
- four-quadrant power measurement and energy registration,
- vector or arithmetical energy registration methods,
- instantaneous values: current, voltage, power, power factor, frequency.



To learn more about the new smart IE.7 meters and its variants, please scan this QR code.

The new IE.7 smart meters are engineered for seamless integration with various head-end and control systems, including new user-friendly dashboards and functionalities of Iskraemeco's Symbiot platform. Designed to maintain optimal performance in even the most demanding environments, IE.7 ensures compliance with stringent cybersecurity and operational standards.





Two prestigious innovation awards for Iskraemeco: the eloT modular platform and IE.X smart meters have been recognized for their excellence

Mariia Ialova Andreuzzi

Iskraemeco has been awarded prestigious honors: the Golden Regional Award from the Goreniska Regional Chamber of Commerce and Industry and the Silver National Award from the Chamber of Commerce and Industry of Slovenia (GZS).

These awards recognize the eloT modular platform and IE.X smart energy meters for their contributions to data-driven energy management, sustainability, and smart metering advancements.

al recognition

We earned the awards in a highly competitive environment. Out of 230 regional innovations submitted across Slovenia, 47 advanced to the national level, where a national committee of 21 experts evaluated the finalists. The assessment criteria included the problem-solving capacity of each innovation, technical features and industry impact, the interdisciplinary nature of the innovation team, benefits to users and market relevance, as well as financial and sustainability impacts.



Industry impact of the innovation

The eloT platform and IE.X smart meters address the limitations of traditional smart metering technologies by prioritizing data processing and extending beyond mere kWh measurement. The eloT platform transforms meters into various multifunctional devices, enabling a wide range of additional applications and services, including:

- Energy management
- Grid monitoring and analysis
- Power quality analysis
- Public lighting monitoring and control
- eMobility charging infrastructure monitoring and charging process control
- Integration of distributed energy resources (DERs)-such as photovoltaics

The eloT platform and IE.X meters represent a significant advancement in energy metering compared to previous technologies, addressing the shortcomings by improving data management, flexible meter configuration, integration, and control of different applications (energy management, grid analysis, smart lighting, eMobility infrastructure monitoring).

The platform upgrades the third generation of IE.X smart meters, enables better data management, additional functionalities for network monitoring and higher security.

Major improvements

While developing and introducing the innovation to the market, we have focused on the following important improvements:

- The multifunctionality of the eloT platform: The key value of innovation is faster development of new products for different applications. Instead of separate designs for each product, the platform represents a common basis for a wide range of devices, such as IE.X meters, DIN-rail DC and AC meters, integrated charging station controllers for e-vehicles and public lighting controllers.
- Focus on data processing and transmission: In new energy systems, data is of paramount importance in efficient management; therefore, the eloT platform is designed in a way that enables gathering and usage of data in the most efficient way possible.
- Sustainability efforts: A smaller environmental footprint can be achieved by reducing the meter's own energy consumption, using recycled materials, reducing the number of components, optimizing energy consumption in the production process, and reducing product weight.
- The openness of the eloT platform: The functionality allows us to adapt to customer needs and customize our solutions: interchangeable communication modules, support for multiple simultaneous communication protocols, improved metering, enhanced tamper detection, different security levels, tailored configuration of load profiles, activity calendars, tariffs, breaker operation modes, access control, power quality monitoring setups, etc.

Commitment to sustainability

"One planet design" principles guided the development of Iskraemeco's eloT platform, which emphasizes circular economy practices. The eloT modular platform not only provides a solid foundation for future technological advancements but also emphasizes reducing environmental impact through lower energy consumption, increased recyclability, and enhanced durability. These features align perfectly with this year's innovation contest theme: 'We have chosen sustainability', underscoring the significant environmental benefits of our solutions.

Participation in Innovation day 2024

The award ceremony was part of Innovation day 2024, an event that brought together industry leaders, innovators, and researchers to discuss innovations in Slovenia. Representatives from Iskraemeco also participated in the EEN networking session, where researchers from the Jožef Stefan Institute expressed interest in collaborating with our company. This opens exciting possibilities for future research and development partnerships, further driving innovation in the energy sector.

A foundation for future innovation

As the energy sector faces several challenges, our solutions contribute to global advancements in energy efficiency, sustainability, and smart city technologies.

This achievement would not have been possible without the dedicated efforts of our talented team. Their expertise, creativity, and commitment are the true drivers of our success.

Such awards serve as a reflection of our dedication to driving the industry forward, fostering sustainable practices, and enhancing the lives of consumers and utilities alike.





For more insights into our innovation process and to meet the team behind these developments, please visit our dedicated page. Scan the QR code to access the material.



Turning ideas in achieve



Electricity

Introducing the IE.7 RC smart meter – a retrofit grid monitoring solution

Mariia Iglova Andreuzzi, Abdelhameed Qotb, Karolina Cotič Bratuž

Iskraemeco has developed the IE.7 RC meter with external Rogowski coils. Designed for consumption measurement and power quality monitoring, this meter variant is ideal for installations where traditional power quality analyzers are challenging or impossible to set up.

The IE.7 RC provides a cost-effective solution for adding monitoring capabilities to existing low-voltage (LV) transformer installations without service interruptions. Its design optimizes installation costs by eliminating the need for costly rewiring typically associated with traditional PQ analyzers and incorporates robust security features on hardware and software levels.

This versatile meter is suitable for monitoring transformers, PV installations, and other critical grid assets.



Main features:

- and I/Os.
- applications.







• Non-intrusive installation: Rogowski coil technology offers non-intrusive installation, clamping easily around existing electrical lines. This feature enables easy integration of monitoring functionalities into existing set ups, reducing installation costs and avoiding service interruptions.

Modular hardware design: the IE.7 RC meter features interchangeable communication modules. The design of the meter is adapted for future upgrades and extensions of functionality.

• Availability of multiple customer interfaces: Ethernet, P1, RS-485

• Load control relays: Up to 6 relays for load management



To learn more about the IE.7 RC meter variant and its capabilities, scan the QR code.



Improved data visualization with Symbiot software suite

The IE.7 RC integrates with Iskraemeco's Symbiot software suite, offering a user-friendly interface for key metrics. Symbiot enables visualization of power quality indicators, harmonic analysis, phase angles, and real-time data such as voltage, current, and power factor - supporting precise analysis and informed decisions.

Available dashboards include:

- Phasor diagrams showing voltage/current angles,
- Harmonics and Total Harmonic Distortion (THD),
- Transformer locations, •
- Four-quadrant power measurement and energy registration, ٠
- Vector or arithmetical energy registration methods,
- Instantaneous values: current, voltage, power, power factor, frequency.

EDGE computing module support

The IE.7 RC can be upgraded with the eloT EDGE compute module, allowing the meter to act as a data source for various applications and go beyond AMI. With built-in machine learning and AI capabilities, the EDGE module supports advanced data processing, scalability, and rapid deployment with a DevOps approach.

The EDGE compute module brings the following improvements:

- Advanced data processing capacity: Supports in-depth data analysis, providing timely and actionable insights.
- Stronger security: Security is built in, with measures such as VPN data protection, role-based access control, and threat detection, addressing the growing need for data security.
- requirements.

Core benefits

The IE.7 RC with Rogowski coils addresses modern electricity distribution challenges, offering:

- Improved grid visibility: Gaining insights into network conditions and valuable insights into power consumption and quality, allowing for more data-driven decision-making.
- Cost-effective installation: Eliminating the need for expensive rewiring or downtime associated with the installation of traditional power quality analyzers.



• Adaptable design: The modular hardware design ensures that the IE.7 RC can be updated to meet evolving grid

Electricity

Iskraemeco optimizes smart meter communication with new 2G/4G modules

Sandi Gruden, Mariia Iglova Andreuzzi

New 2G/4G communication modules for smart electricity meters are now available. These modules provide a cost-effective solution for utilities, addressing evolving telecommunication requirements and ensuring long-term compatibility for smart metering deployments.

The global telecommunications landscape is shifting with the phase-out of 3G technology. Many European countries are decommissioning 3G networks due to high maintenance costs and obsolete technology, anticipating a similar trend worldwide by the end of 2025. While some markets may still require 3G support, the overall demand for this technology is rapidly declining. The introduction of these new 2G/4G modules directly addresses this market shift.

These modules are part of our ongoing communication module development strategy, ensuring compatibility with modern cellular networks and reliable data transmission for your smart metering infrastructure. They seamlessly integrate with existing deployments, serving as a direct replacement for previously used communication modules like AC150-A5 (2G/4G), AC150-A6 (2G/3G/4G), and AC160-A6 (2G/3G/4G), particularly in regions transitioning away from 3G technology. To address potential signal strength challenges in certain locations, we also offer compatible antenna couplers that can be used to enhance signal transmission and ensure optimal data communication.



Benefits for utilities:

- Cost-effective: The removal of 3G support results in reduced manufacturing and maintenance costs. The primary benefit of the new 2G/4G modules is a more cost-effective communication solution for smart metering deployments. While the final price point depends on individual sales strategies, these modules offer a significant cost reduction compared to previous options that include 3G support.
- **Future-proof:** Alignment with the global phase-out of 3G networks. As 3G networks phase out globally, utilities gain peace of mind knowing their smart metering infrastructure is future-oriented.
- Wide application: Suitable for all markets where 3G technology is not required.

By adopting these new modules, Iskraemeco demonstrates its commitment to providing cost-effective and future-oriented solutions for smart metering deployments. The modules are already available for order.

Watch our latest interview and workshop, "Communication technology trends for smart grids," presented by Andrej Ciglič, System and product architect at Iskraemeco. The speaker highlighted the role of the Internet of Things (IoT) in grid management, advancements in AMI, and compares various communication protocols such as PLC, radio, and cellular networks.





Electricity

Elumia expands! A new partnership between Iskraemeco, CLSM, and Inventronics to support the growth of smart and costeffective lighting solutions

Damijan Pristov, Mariia Iglova Andreuzzi, Tomaž Dosta

Iskraemeco, a global provider of intelligent solutions and services for the energy and water sectors, CLSM, a specialist in lighting control technology and Inventronics, a leading manufacturer of LED drivers, have partnered to expand the reach of the Elumia smart lighting monitoring system for public lighting.

Combining Iskraemeco's digital expertise in smart metering, the CLSM patented algorithm for detecting faulty lights by sequential luminaire activation, and Inventronics' advanced LED driver technology, this partnership aims to provide an efficient and cost-effective alternative to full IoT lighting systems, delivering smart functionalities without the high costs and technical complexity often associated with IoT setups.

A key advancement in this partnership is that Inventronics now incorporates Elumia-ready functionality directly into their LED drivers by implementing delayed light activation needed for the CLSM algorithm. This integration simplifies deployment and streamlines luminaire installation, enhancing the overall user experience.

Elumia is a perfect complementary solution for customers not yet ready for full IoT investments, reducing TCO (total cost of ownership) by at least 33% over 10 years compared to IoT alternatives.

Designed for cities, lighting service companies, LED lights producers, and energy service companies (ESCOs), Elumia offers an accessible entry point for smart lighting, with moderate investment needs and flexibility for future upgrades, including full IoT connectivity.





Key features of the Elumia solution

Elumia delivers core lighting management functionalities, such as switching and monitoring lighting installations, providing feedback on proper functioning, and offering comprehensive information on total and individual energy consumption.

- Efficient monitoring of individual light points for immediate operational status.
- Intelligent lighting control: Adjusting luminaires based on location and time for optimized energy use.
- Theft detection: Identifying anomalies in energy use in real-time.



inventronics



- Centralized management: Using GIS-based central management for efficient oversight.
- Energy supervision: Monitoring consumption of each streetlight, broken down by phase, street, and more.
- Environmentally responsible design with features that minimize energy use and provide reliable, precise fault detection.
- **Lowered maintenance costs** through reliable and precise anomaly detection, reducing the need for site visits, like night patrols.

Elumia is commercially available in three versions-Elumia Lite, Compact, and Pro-tailored to meet various project requirements. Digital platforms



Addressing the key challenges in grid management with Symbiot

Marija Iglova Andreuzzi, Aleš Glavina

The rapid integration of distributed energy resources (DERs), combined with rising consumer expectations and the strain of aging infrastructure, make grid management more challenging than ever before.

We have prepared an eBook that examines the challenges in detail and demonstrates how Iskraemeco solutions, including the innovative **Symbiot Twinner** application, equip DSOs with the tools to address them effectively.

Download the full version of the eBook now.



Based on valuable feedback from our customers and industry experts, we have identified eight main challenges that distribution system operators (DSOs) must address to ensure resilient grid operations:



Impact of the energy transition on grid safety and stability

As the energy mix shifts toward decentralized and variable sources like wind and solar, DSOs are tasked with managing increased demand, unpredictable outputs, and maintaining grid stability. New loads, aging infrastructure, cybersecurity threats, and evolving customer expectations intensify these challenges. Traditional grid management methods are no longer adequate to address these complexities.

How can Symbiot help?

Symbiot Twinner equips DSOs with tools for simulating and predicting grid performance, enabling precise grid reconfigurations and accurate impact forecasting through the following capabilities:

- Integration of renewables with predictive impact analysis,
- Anomaly detection,
- Overload detection,
- Voltage problem detection,
- Grid status assessment, overload prevention and safety,
- · Power flow calculation and forecasting,
- Automatic warnings,
- Optimal path and division point calculation.

The platform supports agile simulations, heatmaps, and instant visualization, helping DSOs to make data-driven decisions.

Digitalization of the electricity qrid

Effectively managing vast data volumes requires DSOs to adopt advanced digital solutions. To fully utilize the benefits of digitalization, they need a unified platform that can integrate diverse data streams and transform raw data into actionable insights.

"We are very active, particularly in the modernization and digitalization of the grid. We know that data is now extremely valuable, and data-driven planning is crucial. The more data we have, the better we can anticipate future challenges. Big data systems and network automation are undergoing significant development, supporting the integration of new energy sources and electric charging stations. This green approach is currently very relevant in all of Europe."

- Matjaž Keršnik, Head of metering services at Elektro Ljubljana

How can Symbiot help?

Symbiot brings data from various sources into a unified platform, supporting real-time monitoring, predictive maintenance, and consumption forecasting. By improving data accuracy and visibility across the grid, Symbiot helps DSOs streamline data management and reduce processing errors. With integrated systems and enhanced cross-department collaboration, Symbiot provides tools for optimizing grid performance and informing longterm infrastructure planning.

3.

Management of demand and generation flexibility

As DSOs shift from simply acting as "energy links" to becoming providers of flexibility, they must be able to manage, predict, simulate, and dynamically adjust the grid to keep operations running smoothly.

"Flexibility is now required at every level of the grid. Different prosumers and network users must become more adaptable. DSOs themselves need to be more flexible, and that's where our current focus lies."

-Igor Podbelšek, Head of electric power systems control and operation department at Elektroinštitut Milan Vidmar

How can Symbiot help?

By leveraging unique machine learning insights and predictive power flow management, Symbiot enables DSOs to anticipate and dynamically respond to consumption fluctuations by implementing the following features: prediction of individual consumer consumption behavior, load scenario simulation, network impact analysis, and voltage regulation assessment.

Cybersecurity threats to the arid

As grid systems become more digitalized, they face an increased risk of cyberattacks. Attacks on metering devices, communication infrastructure, software, and central systems could lead to data manipulation or even disable critical parts of the grid. Robust cybersecurity is, therefore, essential for maintaining grid stability and safeguarding information.

How can Symbiot help?

Symbiot's security architecture is designed to help DSOs protect their infrastructure effectively. The software suite complies with key industry standards, including ISO 27001, ISO 27017, ISO 27018, and ISO 33061, which cover data protection, cloud security, and rigorous software lifecycle controls. Symbiot has undergone security testing by CCLab Metas and successfully passed the Swiss Metas Data Security Examination, reaffirming its commitment to data integrity.

With adherence to Cenelec 2016 AMI security standards, Symbiot provides top-level security, employing end-to-end encryption to protect data from smart meters to central systems against unauthorized access. The platform undergoes regular security updates and patches to address emerging vulnerabilities.

5.

Development and investment planning

The need for efficient, data-driven network development and investment planning has become essential. However, traditional planning often relies on worst-case assumptions, leading to costly overestimations and inflated resource demands.

How Symbiot can help?

Advanced geo-temporal navigation and simulation tools help DSOs to plan for future scenarios, including **network expansion**, **DER integration**, **and load growth.** By shifting from assumptions to precise insights, **Symbiot Twinner** helps DSOs identify real network bottlenecks, enabling targeted investments and reducing unnecessary infrastructure costs.

6.

Managing technical and nontechnical losses

DSOs encounter significant financial and operational challenges due to both technical and non-technical losses. **Technical losses**, caused by energy lost as heat within grid components, can lead to substantial expenses. **Non-technical losses**, often caused by electricity theft or billing inaccuracies, impact revenue and can erode customer trust. Together, these losses create a considerable financial burden and reduce operational efficiency.

How Symbiot can help?

Symbiot Twinner enables DSOs to save 5-10% on loss buybacks, resulting in substantial annual cost reductions. Enhanced operational efficiency reduces waste from over purchasing, while strategic market engagement helps DSOs take advantage of low-cost purchasing. Symbiot also detects electricity theft and billing inaccuracies, allowing DSOs to address revenue losses and improve billing accuracy.

7.

Meeting consumer expectations

Today's energy consumers seek accurate billing, dynamic pricing, and transparency with detailed consumption data. DSOs are adopting consumer-centric approaches, offering flexible consumption models that let consumers adjust usage based on grid conditions. Engaging consumers with clear benefits, like cost savings and environmental insights, is essential to gaining their support.

How Symbiot can help?

Real-time access to usage data through user-friendly platforms, mobile apps, and dashboards enables consumers to make informed energy decisions. Symbiot supports DSOs in **delivering accurate billing, dynamic pricing, and the transparency consumers' demand.**



Choosing the right technological tools

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Building an efficient data management system requires careful choice of software that aligns with their operational goals. Key considerations include scalability, flexibility, and interoperability across complex systems. Given the volume of sensitive data, strong data security is essential.

How Symbiot can help?

Symbiot, an all-in-one platform, caters to the operational needs of DSOs. It provides **real-time data management**, **predictive analytics**, **and flexibility**, **with seamless third-party integration and an adaptable architecture** for easy upgrades.

Beyond meter management, Symbiot supports grid digitization, simplifying data handling, improving visibility, and strengthening network control.

Symbiot delivers cost savings and long-term value, meeting current demands while preparing for future challenges. Water

Iskrasonic IW.1 – A smart solution for smart water management

Biju Prabhakaran, Ibrahim Elbeheary

In a world facing increasing water scarcity, efficient water management is crucial. Iskrasonic IW.1, the latest addition to our portfolio of smart water meters, revolutionizes the measurement of water consumption. Equipped with the latest ultrasonic technology, this advanced water meter provides accurate measurements and forms the foundation for efficient and sustainable water management systems.

Iskrasonic IW.1 is more than just a water meter. It is a smart solution that enables efficient and sustainable water management. With its accuracy, reliability, and adaptability, the IW.1 is the ideal choice for utilities looking to improve their operations and contribute to a more sustainable future.



Water management trends

Water management faces numerous challenges, including climate change, population growth, and urbanization. We need innovative approaches based on the latest technologies to overcome these challenges. The most important trends in water management include:

Digitalization: Water supply systems can collect and analyze massive amounts of data by integrating IoT devices, such as smart water meters. This leads to a better understanding of water consumption and more efficient management of water resources.

Automation: Automating processes in water supply systems minimizes human error, increases efficiency, and lowers costs.

Sustainability: Sustainability has become a key factor in the water industry. Water utilities are increasingly focusing on reducing water losses, improving water quality, and using renewable energy sources.

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For more information about the Iskrasonic IW.1 water meter, scan the QR code.





Why the Iskrasonic IW.1 water meter?

Iskrasonic IW.1 is the answer to many challenges in the water industry:

- Accuracy: Ultrasonic technology enables accurate measurements, even in difficult conditions such as the presence of air bubbles or sediment. This means that utilities can reliably bill water consumption and avoid disputes with customers.
- **Reliability:** The water meter is designed to withstand even the most demanding environments. Its robust construction and high-quality materials ensure a long service life and reliable operation.
- **Flexible:** The Iskrasonic IW.1 can adapt to various communication standards, allowing easy integration into existing data collection systems.
- **Security:** Advanced security mechanisms protect water consumption data from unauthorized access and tampering.
- Sustainability: The long battery life reduces the need for frequent replacement, contributing to sustainable management.



Advantages for water utilities

The IW.1 meter addresses the challenges of inaccurate billing, non-revenue water, limited data collection, and infrastructure integration, enabling utilities to operate more efficiently, save resources, and promote sustainability. Main advantages are:

- **Improved management:** Accurate water consumption data enables utilities to better understand consumption, detect leaks, and optimize their processes.
- **Reduced losses:** By detecting leaks at an early stage, utilities can significantly reduce water losses and costs.
- Increased customer satisfaction: Accurate billing and transparency in water consumption contribute to higher customer satisfaction.
- **Improved efficiency:** Automating data collection and processing increases the efficiency of utilities.

MID certification - a guarantee of quality

Iskrasonic IW.1 has successfully obtained the prestigious MID certification (Measuring Instruments Directive). This certification is an internationally recognized standard that confirms that our water meter meets the highest standards of accuracy, reliability, and safety.

The MID certification is a crucial regulatory requirement for measuring instruments utilized in various applications across Europe. It guarantees that our water meters meet stringent accuracy, reliability, and safety standards, assuring our customers that they can rely on the measurements provided by our devices. Attaining the MID certification involves thorough testing and evaluation by an independent, accredited body to confirm that our Iskrasonic IW.1 water meter consistently performs accurately under diverse conditions.

This achievement not only strengthens our position in the market but also enhances our reputation as a trusted provider of high-quality metering solutions. Furthermore, it opens up new opportunities for us in the European market, enabling us to reach and serve more customers with confidence. Additionally, it underscores our dedication to sustainability and resource management. With accurate and reliable water meters like the Iskrasonic IW.1, utilities and consumers can better manage water resources, contributing to more efficient and sustainable water use.



eMobility

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Maximizing efficiency when charging your electric vehicle

Domenico Lamparelli

Electric vehicles (EVs) are becoming increasingly popular as a sustainable mode of transportation. One of the key aspects of owning an EV is understanding how to charge it efficiently. There are two main types of charging: direct current (DC) charging and alternating current (AC) charging. Let's explore the differences between these two methods.





AC charging: the basics

AC charging is the most common method for charging EVs, especially at home or at work. Here's a simple breakdown:

- **Source:** AC power is what you get from your standard household outlets.
- **Process:** The EV's onboard charger converts AC power to DC power, which is then stored in the battery.
- **Speed:** AC charging is generally slower because the conversion process takes time. It's ideal for overnight charging or when the vehicle is parked for extended periods.

DC charging: the last lane

DC charging, often referred to as rapid charging, is typically found at public charging stations. Here's how it works:

- **Source:** DC power is supplied directly to the EV's battery, bypassing the onboard charger.
- **Process:** Since the power is already in DC form, it goes straight to the battery, significantly reducing charging time.
- **Speed:** DC charging is much faster, often providing an 80% charge in 30 minutes or less, making it perfect for quick top-ups during long trips.

Benefits

The most significant advantage of DC charging is its speed. It allows drivers to quickly recharge their vehicles, which is especially useful during long journeys or when time is of the essence.

Long-distance travel

DC fast chargers are strategically placed along highways and major routes, making long-distance travel more feasible for EV owners. This network of fast chargers helps alleviate range anxiety, ensuring that drivers can find a charging station when they need it.

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Increased accessibility

As the infrastructure for DC charging continues to expand, it becomes easier for EV owners to access fast charging options. This growth supports the broader adoption of electric vehicles by making them more practical for everyday use.

Futureproofing

With advancements in battery technology and charging infrastructure, DC charging is poised to become even more efficient. Investing in DC charging capabilities now can help future-proof your EV experience as the technology evolves.

Optimal DC charging solutions

For those looking for optimal DC charging solutions, the Iskraemeco UrbanBox is a top-notch option for destination charging, offering dependable and efficient power for urban settings. With a 40kW output and a single CCS2 connector, it ensures your EV is always ready when you are. Designed for versatility, the UrbanBox can be wall-mounted or placed on a stand, with the stand allowing for back-to-back installation of two chargers to maximize space efficiency.

For long-distance travel, the Iskraemeco NeoBox stands out as the ideal solution. With its high-speed charging capabilities, the NeoBox is an ideal solution for quick recharges on the go, ensuring you can travel long distances with minimal downtime. NeoBox is offered in three different output power configurations: 90kW, 120kW and 180kW. It features two CCS2 connectors with 350A cable, and the touchscreen display is operable under direct sunlight. The modular design and the internal organization in functional drawers make the device simple to service.

Key takeaways

While both AC and DC charging have their places in the world of electric vehicles, DC charging stands out for its speed and convenience. It's an essential component for those who need quick recharges and for making long-distance travel more practical. As the EV market continues to grow, the benefits of DC charging will become increasingly important, helping to drive the transition to a more sustainable future.

By understanding these differences and the advantages of DC charging, you can make more informed decisions about how to keep your electric vehicle powered up and ready to go.

eMobility

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New certifications and system integrations for expanded eMobility capabilities

Domenico Lamparelli, Anja Babič

Iskraemeco's UrbanBox and NeoBox chargers have reached significant progress towards global competitiveness with successful integration into multiple leading eMobility platforms. Our chargers have passed certification for compatibility with Portugal's Mobi.E network, integrated seamlessly with the Ampeco BackEnd System, and completed integration tests on the Last Mile Solution eMobility platform. These advancements confirm that our chargers meet the highest standards for flexibility, interoperability, and performance across Europe.

The Mobi.E network, managed by the MOBI.E, S.A., is a central element of Portugal's electric mobility infrastructure, ensuring rigorous standards for energy and financial flows within the EV ecosystem. Certification by Mobi.E signifies that our chargers are prepared to meet the demands of a well-established, trusted public network.

Additionally, Iskraemeco's chargers have been fully integrated with the **Ampeco BackEnd System**, broadening their operational scope to support both large-scale infrastructure projects and smaller, community-driven initiatives. This integration enables a versatile and efficient solution adaptable to various needs, from expansive public networks to local installations.

Our most recent integration with the **Last Mile Solution** platform further extends the reach of our chargers across Europe. The Last Mile Solution platform is a powerful, adaptive energy transaction system that interconnects electric vehicles, charging stations, and decentralized energy networks. It enables cities and energy providers to streamline distribution, monitoring, and billing processes via its intelligent digital infrastructure. Integrating with Last Mile Solution enhances the flexibility and efficiency of Iskraemeco's eMobility offerings, empowering smart cities and energy providers to foster sustainable mobility.

These developments underscore Iskraemeco's commitment to delivering high-quality, interoperable charging solutions that drive the transition to greener cities and smarter energy use. Partnering with leaders like Mobi.E, Ampeco, and Last Mile Solution, we are actively laying the groundwork for the future of EV charging infrastructure. Building on this momentum, we remain dedicated to expanding compatibility with leading back-end systems, ensuring our solutions meet the evolving needs of the industry. eMobility

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Iskraemeco pioneers e-mobility solutions in Morocco

Alyaa Sakr

In a major step toward sustainable transportation, Iskraemeco is introducing its groundbreaking e-mobility solution in Morocco, in collaboration with its partner, OKSA. This significant achievement underscores Iskraemeco's commitment to advancing electric vehicle (EV) infrastructure and marks a key milestone in Morocco's progress toward a greener, more sustainable future.

This project also lays the foundation for future collaborations in Africa, where the potential for e-mobility solutions is immense. As the African market continues to evolve, Iskraemeco's innovative approach to sustainable transportation solutions will drive positive change, creating new opportunities for both the company and local communities. Through innovation, collaboration, and a shared commitment to environmental stewardship, Iskraemeco is making significant strides in creating a cleaner, more sustainable future for Morocco and the broader African continent.

A milestone in Morocco's e-mobility journey and importance of strategic partnership

The pilot phase of the project involves the installation of five charging stations (GlowBox and PublicBox) across Morocco, with plans for expansion by the end of 2025. By the year's close, Iskraemeco aims to deploy a total of twenty AC and DC chargers, strategically positioned in hotels and shopping malls throughout the country. This expansion not only signals the company's dedication to meeting the growing demand for eco-friendly transport options but also highlights Morocco's emerging role as a key player in the global shift towards sustainable mobility.

Karim Amer, Iskraemeco's Africa Commercial Director, emphasized the significance of this partnership, stating, "Today, we are not only celebrating the launch of our first EV charging solution in Morocco, but also taking a major step forward in creating a sustainable future. Our collaboration with OKSA is a testament to our commitment to providing innovative and environmentally conscious technologies."

Supporting Morocco's green transition and a vision for Africa's sustainable future

The global shift toward electric vehicles is accelerating, driven by the urgent need to reduce carbon emissions and combat climate change. Iskraemeco's advanced e-mobility solutions are integral to Morocco's transition toward a more sustainable transportation ecosystem. The company's reliable and efficient charging stations will enable the widespread adoption of electric vehicles across the country, helping to reduce dependence on fossil fuels and improve air quality.

As Morocco's electric vehicle market continues to expand, Iskraemeco's presence in the region further cements the company's role as a leader in the development of clean energy solutions. The growing demand for EVs presents vast opportunities for innovation and growth, and Iskraemeco is well-positioned to remain at the forefront of technological progress while promoting environmental responsibility.

Perspectives on collaboration, overcoming the industry challenges, and the way forward

Drago Hafner, Mariia Iglova Andreuzzi

Expert interview with Matjaž Keršnik, Head of metering services at Elektro Ljubljana

The energy transition, driven by renewable energy sources, is transforming industries, especially energy distribution. As Europe and the world move toward decarbonization, the key challenge lies in ensuring a reliable energy supply while adapting to increasing demands. In this interview, Matjaž Keršnik, Head of metering services at Elektro Ljubljana, shares valuable insights on the latest trends, challenges, and opportunities in the energy sector. He highlights the longstanding partnership with Iskraemeco and reflects on the smooth transition and upgrade of the Symbiot software suite, thanks to close collaboration. Mr. Keršnik also discusses the challenges of integrating renewable energy and EV charging stations into the grid, emphasizing the importance of data-driven planning and network automation.

You have been working with Iskraemeco for quite a few years now. How do you view this collaboration?

We have had a long-standing partnership with Iskraemeco, and I must say the collaboration has been exemplary. The foundation of our partnership is a strong, professional relationship that has organically transformed into a strategic technical collaboration, characterized by regular meetings. This cooperation has been productive, and I'm optimistic about its continuation in the future.

You are a long-term user of the Symbiot software suite. What has been your experience like?

We have been using the HES system for many years, and the new Symbiot version brings necessary updates and improvements. As technology advances, upgrades become essential to improve the capabilities and address new challenges.

While the previous system met our needs, the Symbiot upgrade has allowed us to make further improvements and better manage the overall system. We approached this upgrade with careful planning, recognizing that any transition, even an upgrade, comes with some risk and uncertainty. I commend both teams at Elektro Ljubljana and Iskraemeco for managing a smooth transition with minimal issues. We went live with the upgraded system in mid-June without any significant problems.

What has made a difference in this upgrade project? What was the reason for its success?

The key success factor has been the teamwork. We were collaborating to solve challenges and ensure a successful outcome. This has been possible due to the long-term partnership between our teams, allowing us to complement each other effectively. I would like to commend the development team at Iskraemeco and our IT department for their hard work and seamless handling of every challenge we encountered. The preparation was exceptional, surpassing expectations for a project of this scale.

The electricity distribution network is facina various challenges, particularly with the integration of new energy sources, such as solar power and EV charging stations. How are you addressing these challenaes?

Yes, the integration of renewable energy sources and EV charging stations is indeed a growing trend. At Elektro Ljubljana and across the distribution network, we are addressing these developments daily. This transformation is changing the role of the electricity distribution network, which is no longer just an "energy link" but is evolving into a source as well, necessitating substantial investments in network development.

We are focusing on smart grid solutions that can balance new energy sources and users. Our goal is to create a system that maximizes the inclusion of renewables and EV charging stations while enhancing the grid's usability. We are also introducing consumer flexibility, allowing consumers to adjust their consumption based on conditions and their needs.

Modernizing and digitalizing the grid remains a top priority. Data has become invaluable, and data-driven planning is essential to anticipate and address future challenges. We are investing in big data systems and network automation to support the integration of new energy sources and EV infrastructure. This green approach aligns with current priorities in Slovenia and across Europe, where sustainable distribution is a primary focus.

Energy at your fingertips: Symbiot Energy 360

Interview with Eng. Ahmed Nada, **CEO of E&Power**

As the energy sector embraces a digital transformation, solutions like Symbiot Energy 360 are becoming essential for both utilities and end-users. Developed with a focus on usability and transparency, the application allows consumers to take an active role in managing their energy consumption. With features designed for real-time monitoring, easy payment options, and data-driven insights, Symbiot Energy 360 empowers users to track, control, and optimize their energy use.

Energy 360

In this interview, we speak with Eng. Ahmed Nada, Chief Executive Officer of E&Power, an Egyptian company established in 2014 that specializes in distributing and selling electricity and water. Our conversation delves into their partnership with Iskraemeco, the evolution of their smart meter technology, and how the digital transformation is redefining energy management for both businesses and consumers.

Can vou share more about vour partnership with Iskraemeco, including when and how it began?

Our partnership with Iskraemeco began in 2018, at a time when we were exploring smart meter solutions. The recommendation for collaboration came from Waleed Raouf, a former Elsewedy executive, along with our founder. Initially, it was challenging because the meters available were primarily hardware components. Through trial and error, we worked together to finalize the product, and by the last quarter of 2020, we had achieved a smart solution that met our customers' expectations. This included developing a mobile app, which became a cornerstone for customer satisfaction. integrating a user-friendly, smart solution.

What shared ideals and principles did your organization and Iskraemeco have that led to this collaboration?

The late Waleed Raouf played a key role in fostering this collaboration, as he shared our vision of enhancing utility management through technology. His values of innovation and customer-centricity aligned well with both E&Powers's and Iskraemeco's goals of providing efficient, smart solutions for energy management. This shared commitment laid a strong foundation for our ongoing partnership.

ing evolving customer needs and staying competitive in the smart technology space. Prior to implementing Iskraemeco's Symbiot Energy 360 solution, what were the primary difficulties faced by utilities and end customers at **E**&Power? Before implementing the Symbiot Energy 360 solution, our main challenge was establishing transparency with customers. We initially sold smart meters as standalone hardware, lacking features like remote monitoring. We realized that a mobile application was essential to create a comprehensive smart solution, allowing clients to access real-time data on their usage. The Symbiot Energy 360 app and associated portal strengthened our credibility and enhanced long-term customer relationships. With this full solution, customers could see the benefits of smart technology firsthand, leading to improved customer satisfaction and trust.

Given the recent increased focus on digital transformation and smart technologies, how does that impact your business?

Digital transformation has been crucial for E&Power, as it aligns with our core mission to modernize utility management. By implementing digital solutions for smart metering, we can transition customers from traditional analog systems to modern digital interfaces. Through mobile applications, customers now have better visibility in their usage, enabling remote monitoring and greater control over their consumption. This shift to digital enhances transparencv. reduces manpower requirements, and lowers both production and operational costs, making our processes more efficient. Ultimately, digitalization is central to meet-

What were the key benefits or improvements Symbiot Energy 360 brought to your customers?

Symbiot Energy 360 solution provided several significant benefits. First, it offered customers real-time insight into their energy usage, enabling them to monitor and manage their consumption more effectively. Additionally, the solution allowed for greater transparency, giving users control over their energy expenses and providing features like consumption ceilings and usage tracking. These enhancements not only improved customer satisfaction but also promoted energy savings, aligning with E&Power's mission to support sustainable energy consumption.

How do you see the fruitful collaboration between Iskremeco and E&Power in the future and in what ways can we improve the solution for better service to end users?

We envision a future where our collaboration with Iskraemeco continues to innovate and expand the functionalities of our smart solutions. To better serve our customers, we plan to enhance the software aspects of our offerings beyond just billing or payment solutions. Future improvements could include user-friendly features that allow customers to set consumption limits, actively control their energy usage, and receive personalized energy-saving tips. This would differentiate us from competitors. who focus primarily on payment functions. By prioritizing energy management tools, we can add more value for our customers and help them save energy efficiently.

Iskraemeco securing the future by implementing PKI for smart electricity meters

Aleš Tancer

In today's interconnected world, where smart electricity meters play a crucial role in energy management, ensuring data integrity and security has become a top priority. Our company has taken a significant leap forward by implementing a robust Public Key Infrastructure (PKI) for our smart electricity meters. This strategic move, combined with our existing Hardware Security Modules (HSM) and Key Management System (KMS), enables us to meet the most demanding customer security requirements, including DLMS Security Suite 1 compliance.

Understanding the importance of PKI in smart metering

Public Key Infrastructure (PKI) provides the foundational framework for secure communication, authentication, and data integrity in smart metering systems. By embedding certificates directly into our smart electricity meters, PKI ensures that every interaction-be it data transmission, firmware updates, or command execution-is authenticated and associated with verified client and meter identities. A digital signature confirms that the information originated from the signer and has not been altered.

With PKI, we address several critical security challenges in Iskraemeco:

- 1. Data integrity: Guarantees that data is not tampered with during transmission.
- 2. Authentication: Ensures that only authorized entities can communicate with the meter.
- Confidentiality: Protects sensitive data from unauthorized access. 3.
- 4. Non-repudiation: Provides a verifiable trail of actions and transactions.

Achieving DLMS security suite 1 compliance

DLMS Security Suite 1 is one of the most stringent security frameworks for smart meters, designed to protect against advanced cyber threats. By implementing PKI, our meters now support:

- Mutual authentication: Ensuring both the meter and the backend system authenticate each other before data exchange
- Advanced encryption standards (AES): Utilizing AES-256 to secure communication channels.
- Digital signatures: Validating firmware updates and preventing unauthorized modifications.
- Key lifecycle management: Ensuring secure generation, distribution, rotation, and revocation of cryptographic keys.

Integrating PKI with HSM and KMS

Our PKI implementation is reinforced by the seamless integration with existing Hardware Security Modules (HSM) and a robust Key Management System (KMS). This synergy between PKI, HSM, and KMS not only enhances security but also simplifies compliance with regulatory standards and customer requirements.

Role of HSM

HSM devices provide a tamper-resistant environment for generating, storing, and managing cryptographic keys. These devices are certified to the highest security standards (e.g., FIPS 140-2 Level 3), ensuring that our keys remain protected even in the face of sophisticated attacks.

Role of KMS

The KMS enables efficient and comprehensive management of cryptographic keys throughout their entire lifecycle. It includes secure key generation, distribution, and rotation, with seamless integration with Hardware Security Modules (HSM) to ensure the highest level of protection.

Benefits for customers

Our PKI implementation offers multiple benefits for our customers, particularly those with stringent security requirements:

- 1. Customers can trust that their energy data is protected against unauthorized access and manipulation.
- 2. Our meters meet international standards, helping customers comply with legal and industry-specific regulations.
- 3 The PKI framework is scalable and adaptable to evolving security needs, ensuring long-term protection.

Looking ahead

As the energy sector continues to digitize, the importance of secure, scalable, and compliant systems cannot be overstated. By implementing PKI for our smart electricity meters, we are not only addressing current security challenges but also positioning ourselves as leaders in the field of secure energy solutions.

This initiative, reinforced by our HSM and KMS capabilities, demonstrates our commitment to innovation and security. Together, these technologies form a cornerstone for building customer trust, enhancing operational reliability, and meeting the demands of a rapidly evolving digital landscape.

For us, securing the future starts today. Through PKI, we ensure that our smart meters deliver not only accurate energy data but also peace of mind.

Reducing losses and increasing efficiency in production

Eva Šturm, Miha Kern

At Iskraemeco, we believe that every step in the production process is important to our success. That is why we are constantly looking for new ways to improve our processes, reduce losses and increase efficiency. In this article, we present some of the most important improvements we have recently implemented in our production processes in Kranj.

Why is loss prevention important?

Every company generates different types of production losses. Each of these losses represents untapped potential and can have a negative impact on cost, product quality and customer satisfaction. There are eight basic types of loss, which can be summarized with the acronym TIMWOOD(S):

- 1. Transport: unnecessary movement of materials and products.
- 2. Inventory: excessive stocks of material and finished products.
- 3. Motion: unnecessary movement of workers between workplaces.
- **4. Waiting:** waiting for materials, tools, instructions, or for the completion of previous processes.
- 5. Overprocessing: unnecessary or duplicated processes in production.
- 6. Overproduction: production of more products than can be sold.
- 7. Defects: product defects during production.

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8. Skills: underutilized knowledge and experience of employees.

How has Iskraemeco tackled each type of loss?

Transport

Inventorv

Motion

At Iskraemeco, we believe that success is the result of teamwork. That is why we have involved all employees in the improvement process, ranging from production, engineering, operational excellence, IT and development to management. Together, we have identified the eight basic types of loss that have the most impact on our business and developed specific measures to reduce them. The results of these joint efforts are visible at every step of our production.

Transport: Unnecessary material movements increase costs and the risk of damage. By optimizing workplace layout, implementing direct packaging, moving the packing room into the production area and using semi-automated forklifts, we have reduced transportation routes and increased efficiency.

Inventory: Excessive inventory ties up capital and can lead to product obsolescence. By implementing intermediate storage in production, setting a maximum allowed stock of material per line, using the FIFO (first in, first out) method and improving traceability, we have significantly reduced inventory losses and improved production efficiency.

Motion: Unnecessary employee movements can lead to fatigue, errors and lower productivity. By implementing the 5S+1 method, providing continuous employee training and optimizing workplaces, we have reduced unnecessary movements and improved ergonomics.

Waiting: Waiting times are not uncommon in production and can be caused by various factors, such as equipment breakdowns, material delivery delays or sub-optimal process planning. At Iskraemeco, we have developed an application to automatically record downtime on production lines, which enables us to quickly identify and resolve issues and prevent recurrence. Additionally, we have optimized production procedures and improved equipment maintenance.

Unnecessary workflows: By systematically analyzing our production processes, we have successfully eliminated numerous non-value-adding steps. We focused on optimizing packaging by implementing direct packaging immediately after the SMT process. Additionally, we reduced production time by cutting PCB boards directly after the SMT process and conducting functional tests immediately following the THT soldering process.

What are the benefits of our improvements?

We have all been actively involved in finding new solutions and eliminating bottlenecks in our processes. Collaboration, innovation and a constant desire to learn have enabled us to achieve significant results:

- Increased efficiency: By reducing losses, we have increased our production efficiency and therefore reduced costs.
- Improved quality: Better process control and reduced defects have led to improved product quality.
- Greater customer satisfaction: Faster delivery times and better product quality have increased customer satisfaction. •
- vironment for our employees.

At Iskraemeco, we believe that continuous improvement is the key to success. By implementing various measures, we have significantly reduced production losses and increased our efficiency. However, we are aware that this is an ongoing process. Therefore, we will continue to look for new ways to improve our processes and remain competitive in the market.

Overproduction: Overproduction leads to increased inventories and reduced flexibility. With the introduction of just-in-time approach, we have reduced excess production volumes and shifted our focus toward addressing current customer needs more effectively. We place a strong emphasis on the timely fulfillment of production orders, ensuring that we produce only what is required to meet immediate demand.

Defects: Equipment and material defects can cause production downtime and increase costs. We have reduced the number of defects through regular equipment maintenance and improved quality control of incoming materials.

Skills: All employees bring valuable experience and expertise to the table. Through regular line meetings and continuous improvement workshops, we actively foster a collaborative environment where everyone is encouraged to contribute to finding innovative solutions.

Better working environment: Optimizing workstations and reducing physical strain have led to a better working en-

Increased competitiveness: Continuous improvements have made us more competitive in the market.

Digital transformation of business processes at Iskraemeco using **Microsoft Al**

Robi Zorman

Digital transformation at Iskraemeco represents a crucial step toward greater efficiency, optimization of workflows, and enhanced service quality. As part of this transformation, we have recently focused on integrating advanced artificial intelligence solutions, with Microsoft Al playing a key role. Implementing this technology enables us to automate routine tasks and improve data processing, which translates into time savings, cost reductions, improved service quality and speed, and an increase in employee-added value.

Automating data extraction from business documents

One of the first AI projects at Iskraemeco was aimed at automating data extraction from various business documents. Using Microsoft's content recognition technology, we can efficiently and reliably process large volumes of data across a range of document types. This AI solution is designed to automatically detect and extract key information from documents, significantly reducing the need for manual entries and eliminating human errors that can occur with manual data input. This saves time while enhancing accuracy and speed for our employees in processing documentation.

Reviewing and processing of incoming invoices

Another successful AI application has been the automation of incoming invoice processing. With the help of Al, we can now receive, analyze, and process invoices, where the Al automatically reads and verifies data according to our business rules. The system then automatically inputs the invoice into the ERP system, significantly shortening processing time and ensuring high accuracy. This approach not only relieves administrative employees but also reduces the likelihood of errors, ensuring consistent accuracy in invoice processing. Our team can now dedicate more time to data analysis and process improvement instead of manual entry.

Predictive analytics for material pricing and preventive maintenance

In pursuit of long-term business optimization, we are further expanding AI use to more advanced processes, including predictive analytics for material price trends and preventive maintenance of machines.

For the first area, AI will use market data and historical trends to forecast future raw material prices, helping us with strategic planning, inventory management, and a faster response to product demand.

We also plan to use AI for preventive machine maintenance. By analyzing machine condition data collected through sensors and other sources, we'll be able to predict potential failures or malfunctions. This will enable timely preventive repairs, reduce production downtime, extend equipment lifespan, and ultimately optimize maintenance costs, increase productivity, and contribute to sustainable development.

Improved information security management system (ISMS) with the new ISO 27001:2022

Anže Zaletel

Since 2016, Iskraemeco has been committed to continuously improve its information security management system (ISMS). In 2024, we transitioned to the latest version of the ISO 27001:2022 security standard and successfully completed the certification audit conducted by the SIQ.

By transitioning to the new security standard, we enhanced key areas of information security, ensuring that our employees, customers, products and organization are protected against current and future security risks.

Many of the security controls and processes required by the new standard had already been implemented at Iskraemeco in previous years. As a result, the transition to the new ISO 27001:2022 standard was seamless and supervised by the Iskraemeco Group's information security manager.

In addition to transitioning to the new version of the standard, we also implemented improvements to key security processes, ensuring higher compliance levels with cybersecurity EU regulations, local legislation and other legislative requirements.

With the newly acquired ISO 27001:2022 security certificate, Iskraemeco continues to follow its established security strategy, ensuring the highest levels of confidentiality, integrity, and availability of information within the organization and in the products, offered to our customers.

Iskraemeco holds security certifications for ISO 27001:2022. ISO 27017:2015, and ISO 27018:2019.

Key areas of improvement

Information security governance

Improvements in the methodology and processes for managing information security risks.

Implementation of new security controls and improvements to existing controls in the management of external suppliers.

Cybersecurity

Deployment of new technical security mechanisms to detect internal and external threats and reduce the risks of adverse consequences.

Information security in Iskraemeco products

Improvements in processes ensuring security and privacy by design in product development and principles of secure development of solutions.

Physical security

Improvements in physical security control systems to detect and prevent unauthorized access to premises of our organization.

An energy transition: expert insights and innovations

Anja Babič, Mariia Iglova Andreuzzi

The energy business is changing quickly as global efforts to reduce emissions grow, and renewable sources are becoming increasingly important. Electricity distributions must adjust to a decentralized, digital, and data-driven environment as a result of this change. By encouraging open dialogue and collaboration, Iskraemeco facilitates this shift and enhances the industry's modernization and digitalization

We have recorded a series of videos where industry experts dive into three critical areas, exploring trends, challenges, and solutions that address the complexities of today's grid management. Scan the QR code to watch videos on our website.

Trends and challenges in the energy sector

Dr. Jurij Curk, Advisor to the board at Elektro Ljubljana

Dr. Curk addresses the challenges facing Slovenia's energy sector, particularly the strain from renewable energy integration, network limitations, distribution issues, and the need to adapt the infrastructure to

Klemen Belec,

Klemen Belec outlines Slovenia's energy transition priorities, emphasizing

As DSOs transition to a decentralized grid model, they encounter additional challenges. Managing data from distributed energy resources (DERs), incorporating variable renewables, maintaining cybersecurity, and satisfying growing customer demands are some of the main concerns. DSOs are committed to improving technology, adjusting to regulations, and enhancing reliability.

lgor Podbelšek,

Head of electric power systems control and operation department at EIMV

Igor Podbelšek highlights challenges in Slovenia's energy sector, including the rapid adoption of solar power and the need for grid digitalization, grid flexibility and closer collaboration between all market players.

Head of metering services at Elektro Ljubljana

Matjaž Keršnik highlights the strong, long-term partnership with Iskraemeco, praising the smooth transition to the Symbiot platform thanks to effective collaboration.

Global hardware management director at Iskraemeco

the need to align national directives with the energy system's capabilities.

Management and planning of modern arids

Tools and strategies for adaptability and responsiveness are necessary for modern grid management. Advanced analytics, load scenario simulation and forecasting, network impact analysis and prediction of consumer consumption behavior are all examples of effective approaches. DSOs may improve grid resilience, reduce costs, and maximize efficiency with the help of these tools.

Aleš Glavina, Global software product management director at Iskraemeco

Aleš Glavina highlighted Slovenia's energy challenges, stressing the need for advanced planning tools and real-time data for grid management. He emphasized stakeholder collaboration and investment in modern IT systems to ensure grid transparency and flexibility.

Simon Oblak, Global solution management director at Iskraemeco

Dr. Simon Oblak highlighted the primary challenges for Slovenia's energy system, noting the strain from increased renewable integration and fluctuating demand. He emphasized the need for enhanced digitalization to generate, share, and analyze data across multiple levels, enabling better grid adaptability and optimizing future investments. Dr. Oblak also underscored the importance of cybersecurity as the system becomes more vulnerable to external threats.

Andrej Ciglič, System and product architect at Iskraemeco

Andrej Ciglič explored the latest trends in communication technologies, focusing on their critical role in smart grid management. He highlighted the impact of the Internet of Things (IoT) on arid operations, the benefits of advanced metering infrastructure (AMI), and offered a comparative analysis of various communication protocols. He emphasized the importance of robust communication systems for real-time data exchange and their impact on effective decision-making.

Iskraemeco innovations

Aleš Potočnik,

Global Director of Technology Design Center at Iskraemeco and Executive board member of ESMIG

Mr. Potočnik shared updates on over 50 innovative energy projects. Highlights included an advanced grid flexibility algorithm, a Linuxbased product prototype, and advancements in fiber optic communication. He also discussed the importance of connecting various domains within the grid to create a smarter, more efficient energy system.

To meet DSOs' demands in a complicated energy environment, Iskraemeco's solutions include metering hardware, software, and services. They enable real-time monitoring, enhanced data accuracy, early issues detection, and peak load management. Our innovative tools also support the integration of renewable energy sources, helping to prevent outages and reduce losses. Enhanced cybersecurity ensures reliable protection of the grid and data. These features enable DSOs to optimize resources, integrate renewables, and maintain stability.

Powering a sustainable future

The energy transition brings challenges and opportunities. Through innovation and collaboration, Iskraemeco leads the way, ensuring a greener, reliable, and secure energy future. Join us in exploring a more sustainable path forward.

Iskraemeco's demand and generation flexibility solution wins the first prize at "Innovation of Energy '24"

Mariia Iglova Andreuzzi

Iskraemeco has been awarded first prize at Prosperia's annual event, "Innovation of Energy '24," for its innovation in managing demand and generation flexibility through advanced metering systems (NMS). Competing among 13 submitted innovations, Iskraemeco's solution was selected as the top innovation by a combination of a program council (30%) and participants' votes (70%), making this recognition particularly significant as it reflects the endorsement of experts in the field. Iskraemeco's recognition at "Innovation of Energy '24" highlights its commitment to developing innovative and practical solutions for grid management. We are confident that implementing this solution DSOs would significantly contribute to the energy transition by allowing much better utilization of the existing grid infrastructure. As the energy sector continues to embrace new technologies, solutions like

As the energy sector continues to embrace new technologies, solutions like Iskraemeco's DDLM method are key to addressing modern challenges and ensuring a sustainable transition.

Tomaž Dostal, Head of Innovation sector and a spokesperson from Iskraemeco, presented the company's advanced approach to flexibility management in the electricity distribution system. The solution utilizes the Distributed Dynamic Load Management (DDLM) method, which leverages the advanced metering system (NMS) to monitor grid conditions and relay control information. Additionally, it incorporates a digital twin of the network, allowing for real-time system control and responsiveness.

The standout feature of this solution is the decentralized approach offered by the DDLM method. Unlike traditional solutions that rely on centralized control – requiring highly detailed and often unstable grid models, complex algorithms to calculate demand and generation at specific points, and powerful communication systems to transfer information—the DDLM method operates in a distributed manner at the EDGE (metering point) of the network. This makes the solution not only simpler and more reliable but also more cost-effective and scalable.

By utilizing existing devices in the grid, Iskraemeco's solution avoids the need for detailed insight into every connected device while still ensuring stability and efficiency. This flexibility makes it particularly well-suited for integrating renewable energy sources, such as photovoltaic systems, into modern power grids.

Progress and innovation in the ENFIELD project

Klemen Žbontar, Anja Babič

This year, Iskraemeco strengthened its role as a key partner in the EU-funded ENFIELD project, which brings together 30 partners–20 research institutions and 10 industrial leaders–to drive sustainable and ethical AI in Europe.

The project focuses on four key pillars–Green AI, Adaptive AI, Human-Centric AI, and Trustworthy AI-advancing innovation in sectors like energy, healthcare, manufacturing, and space.

As ENFIELD continues into 2025. Iskraemeco remains dedicated to advancing environmentally conscious Al technologies across Europe, driving innovation that prioritizes both technological progress and sustainability.

Iskraemeco's efforts have been centered on Green and Human-Centric AI within the Energy Vertical. We participated in one Open Call, a unique ENFIELD mechanism to attract top researchers to develop solutions tailored to specific industry needs. With these initiatives, Iskraemeco and other project members supported small-scale projects that enhance AI's role in energy management and promote sustainability.

In addition to the Open Call, Iskraemeco attended the General Assembly meeting at Eindhoven University of Technology in September. This four-day event convened consortium members to evaluate progress, exchange ideas, and plan the next phases of the project. The meeting reinforced our commitment to ENFIELD's goals, providing insights and collaboration opportunities that enhance our contributions to sustainable energy solutions.

"This year's activities have shown the immense potential of collaborative AI research in creating sustainable solutions for the energy sector. Working with top researchers across Europe has allowed us to expand our vision for Green and Human-Centric Al and contribute directly to real-world advancements. We look forward to building on this momentum as we continue to push the boundaries of innovation and sustainability," commented Klemen Žbontar, Lead innovation engineer and project leader for ENFIELD at Iskraemeco.

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Celebrating 25 years of partnership with SIQ

Gregor Kita, Anja Babič

For Iskraemeco, quality isn't just a goal; it's a partnership—a shared journey with SIQ that begins with dedication and ends with innovation. Every certificate, audit, and feedback loop fuel our ambition to not only meet global standards but to redefine them, setting new benchmarks that push our industry forward. Together, we're transforming quality from a measure of compliance into a continuous pursuit of excellence.

The value of partnership with SIQ

Our collaboration with SIQ began in 1998 when they first tested a three-phase induction meter for us. Since then, our relationship has expanded into one of the most comprehensive partnerships in the industry. SIQ has issued over 300 test reports and certificates for Iskraemeco products, ensuring that we meet the highest standards in safety and performance. Additionally, we've received 8 management system certificates in areas such as quality and information security, reinforcing our commitment to global compliance. SIQ's support extends beyond certifications. They have conducted countless training sessions for our teams over the years, providing hundreds of hours of training that equip our employees with the latest industry insights and skills. This dedication to development means we're always a step ahead, ready to adapt to emerging trends and meet the evolving needs of our customers.

Quality as a mindset

At Iskraemeco, quality goes beyond compliance; it's a mindset. Embracing a growth mindset means viewing feedback as an invaluable tool for development. In a recent project, we turned customer recommendations into actionable improvements, resulting in a 15% reduction in lead times and a 10% increase in production efficiency-benefits that underscore the power of this proactive approach.

Celebrating 25 years and beyond

This milestone-25 years of partnership with SIQ-reminds us that true quality is the result of dedication, teamwork, and a relentless pursuit of improvement. With a 98% customer satisfaction rate and products sold in over 30 countries, we are excited to build on our legacy, confident that our shared commitment to quality will continue driving success and innovation for years to come.

As our Director of Quality, Gregor Kita, explains, "Quality is never accidental-it's the result of a systematic approach, a willingness to confront challenges, and a commitment to partnership." This mindset not only drives continuous improvement but also deepens our relationships with customers and partners alike.

SIQ's role in supporting innovation and global compliance

SIQ's contributions extend beyond certifications and audits. Their expertise allows us to maintain compliance across international markets-a crucial factor as we expand globally. With SIQ conducting over 20 audits annually, we ensure our products are market-ready wherever they are deployed, upholding our reputation for quality worldwide.

Certifications from SIQ boost our credibility, and their insights into regulatory changes help us stay proactive. By partnering with SIQ, we gain a competitive edge, enabling us to meet market demands confidently and effectively.

Looking forward: A commitment to quality and innovation

As we look to the future, our partnership with SIQ remains central to our strategy. Together with SIQ, we're not just meeting standards; we're setting them. This collaboration empowers us to innovate and adapt in a fast-evolving market, knowing we have a partner that shares our vision of quality.

In today's competitive landscape, quality is more essential than ever. Through our shared commitment to continuous improvement, we look forward to navigating the future with agility, precision, and unwavering dedication to excellence.

Iskraemeco earns prestigious "Customers' Friend" certification

Anja Babič

Iskraemeco has been awarded the "Customers' Friend" certification by ICERTIAS, a Swiss organization known for recognizing excellence in customer service. This milestone highlights our commitment to customer satisfaction and strengthens our position as a leader in the energy solutions industry.

To earn this certification, we underwent a rigorous evaluation process that assessed customer feedback, public perception, and reliability. Iskraemeco was recognized for excellence in transparency, corporate responsibility, and trustworthiness-qualities we continuously strive to embody.

Setting a new standard for customer-centric excellence

Our certification sets a new benchmark for customer-focused service in the energy and water solutions sectors. This recognition inspires us to continue our efforts and to keep placing an excellent customer experience at the forefront.

"Our commitment to our customers is reflected in every step we take, from innovation in technology to the reliability of our service," said Thomas Petuaud-Letang, CEO of Iskraemeco. "This 'Customers' Friend' certification reinforces our mission to put customer needs at the forefront of our efforts. It's a privilege to be recognized, and we look forward to continuing to build a future grounded in trust, quality, and lasting partnerships."

Driving positive impact and sustainable growth

The "Customer's Friend" certification not only boosts customer confidence but also strengthens our internal culture, deepening employee engagement and fostering an environment centered on customer care. As we expand regionally and internationally, these values align with our vision for long-term sustainability and growth in smart metering, water, e-mobility, and digital platform solutions. This certification also represents our commitment to setting industry standards that prioritize the customer experience. We look forward to fostering a more consumer-friendly marketplace and further earning the trust of our customers and partners.

Driving change for a responsible future or why sustainability matters?

Dalija Delić

An increasing number of businesses invest time and effort into activities and projects trying to improve their Environmental, Social and Governance (ESG) conduct. "Sustainability" has become a crucial part of companies' day-to-day vocabulary, whether in lowering their CO_2 footprint, producing more sustainable products, or planting greenery for the bees and pollinators. Once a niche concept, sustainability now shapes strategic decisions across Europe and beyond. But why? We've previously discussed the urgent need for a "green transition" and the undeniable data showing our planet's climate and environmental decline. However, the burden, and therefore responsibility, isn't equally shared. A 2024 study from The Carbon Majors Database reveals that just 57 companies are responsible for 80% of fossil CO₂ emissions since the 2016 Paris Agreement. This finding underscores how a small group of corporations has ramped up fossil fuel consumption, disregarding commitments made in the Paris accord.

While some companies bear a greater share of responsibility, a successful green transition hinges on the involvement of all businesses. Companies, as drivers of innovation and technological advancements, play a critical role in making this transition possible. Governments and organizations like the UN and EU have introduced regulations and agreements to guide businesses, but given the escalating environmental crises-disrupted ecosystems, species extinctions, polluted air and water, rising temperatures, and severe weather events-reactive measures alone are not enough. Proactive business leadership is essential in accelerating progress toward a more sustainable future.

The new Iskraemeco sustainability strategy

Although Iskraemeco's environmental and climate impact is modest, we recognize the vital role businesses play in addressing climate change—and we are committed to doing our part. From the very beginning, we have taken pride in being a responsible employer and a fair partner to our customers and suppliers. Over the years, we have steadily woven sustainability principles deeper into our operations, making them a core part of how we work. Recognizing the relevance and urgency of the green transition, we have been actively working toward achieving sustainable development for more than a decade now.

In 2024, following the promotion of the sustainability department to strategies, we implemented an updated sustainability strategy. The strategy is designed to guide an overarching and all-encompassing approach to ESG goals. Since sustainability is not just "green" or "eco", Iskraemeco's strategy focuses on people, supply chain and governance, as well as the environment and climate. It is formed around six pillars:

Along with the strategy, we have set out projects expected to be implemented in the next year. Some of which are improved energy management system allowing for energy monitoring by production lines, enhancing supplier transparency, and obtaining additional Environmental product declarations (EPD) for IE.X and LEAN product families. As a core objective, we aim to raise awareness among our employees about the importance of embedding ESG principles in all aspects of our daily work. This involves integrating environmental and social considerations throughout our product design, development, process improvement, and optimization phases. Equally essential is our commitment to transparently communicating our dedication to sustainability with our customers and business partners, ensuring they feel valued and engaged while being a crucial part of our efforts toward a more responsible future.

Double Materiality Assessment

Our strategy is based on a recently completed double materiality assessment, in line with EU Corporate Sustainability Reporting Directive (CSRD) guidelines. Through this exercise, Iskraemeco has identified which sustainability matters are most material, i.e., relevant for us and our stakeholders. We did this with the input from our employees and stakeholders (customers, local community, suppliers, etc.) via a survey. Our sustainability committee and top management gathered and analyzed the answers, resulting in the matrix you see below. We have also added Climate-Conscious Products and Solutions as an additional pillar, besides ESG pillars, while innovation is the main driver of our company. Our solutions for energy and water management, as well as EV charging, directly address climate challenges and contribute to a sustainable future. This focus underscores our commitment to evaluating the environmental and social impacts of our products across the value chain, communities, and within our own workforce.

The topics included in the top right quadrant are identified as the "most material" (relevant) for the company, while the topics in the left bottom quadrant are "non-material". This implies that we won't include these non-material topics in our ESG reports.

Not only does this assessment determine the scope of our sustainability reporting, but it also provides indispensable insights for shaping our sustainability strategy. It allowed us to identify and prioritize sustainability issues that are significant both to us and our stakeholders. This approach also enables us to analyze the risks and opportunities associated with each area, providing valuable insights to guide both our daily decisions and our longterm business strategy.

Updated policy package

In September, we have adopted a new batch of policies and updated some old ones. The double materiality assessment also informed these policies, assisting us in prioritizing key areas that alian with our operational goals and stakeholder expectations.

This ensures our commitment to long-term responsibility, ethical practices, and respect for human rights across our business.

The newly adopted policies are: Human Rights Policy, Anti-Corruption and Anti-Bribery Policy, Equal Treatment Policy, Sustainable Procurement Policy and Supplier Code of Conduct. We have also updated and expanded upon the existing Environmental and Energy Policy, Health and Safety at Work Policy, Quality Policy, Sustainability Policy and Software Development Life Cycle Policy.

Double Materiality Assessment

All policies are available on our website.

The policies reflect our ongoing commitment to embedding responsible practices throughout the group and are thoughtfully aligned with global standards and best practices, including the UN Global Compact, ILO conventions, and other key frameworks. These policies also set ambitious short-term and long-term targets and commitments that we will monitor, report on, and adjust as we go-raising the bar over time. We are serious about making a real difference in ESG and are committed to tracking our progress along the way.

Recognized as one of the best: the "Best Employee" project

Sabina Kalan, Miha Kern, Mateia Kuralt

The success of a company depends on numerous factors, with employees undoubtedly playing a key role. For this reason, many organizations are increasingly focusing on enhancing the engagement, motivation, and satisfaction of their teams. At Iskraemeco, through the "Best employee" project, we are fostering a culture of recognition that not only promotes a better work environment but also positively impacts our business performance. In this way, we aim to fully harness the potential of our employees in production in Kranj and support their growth.

Why the "Best Employee" project?

Our production workers contribute directly to the company's success with their expertise and hard work, ensuring efficient production processes. We recognize that their work is physically demanding and often repetitive, which can lead to lower motivation and higher turnover. That is why we have introduced the "Best Employee" initiative, aimed at improving the work environment, increasing employee satisfaction, and fostering a stronger sense of loyalty to the company.

The "Best Employee" project is designed to enable all production employees to actively participate in selecting the best coworkers. The process is carried out in several stages: employees nominate colleagues who, in their opinion, stand out in various areas such as work quality, teamwork, innovation, skill development, mentorship, participation in internal training, and more. Following the nominations, all production employees have the opportunity to vote for their favorites. A committee, composed of representatives from management and employees, counts the votes and determines the winners based on the results. In cases where multiple candidates receive the same number of votes, the committee applies pre-defined criteria for additional evaluation to ensure a fair selection. This approach guarantees objectivity and transparency throughout the process. The winners receive recognition and a reward, which not only promotes their well-being but also strengthens long-term job satisfaction, loyalty to the company, and team cohesion.

We have observed numerous positive impacts of the project on both the company and its employees. Among the most significant are increased motivation, improved workplace atmosphere, reduced turnover, higher productivity, and enhanced quality of final products. Employees feel more valued and motivated, which drives them to achieve even better results. The project has also strengthened the sense of belonging and collaboration among employees, contributing to a more cohesive and engaged workforce.

External recognition

We are proud that our "Best Employee" has received external recognition by being nominated for the Best of the Best 2024 award by the American Chamber of Commerce in the Motivation cateaory.

The American Chamber of Commerce emphasizes its commitment to learning from the best, which is why, through the Best of the Best program, it annually recognizes and highlights the most successful business practices in Slovenia that foster innovation, motivation, and collaboration for growth and progress. This year, 24 applications were submitted, and the AmCham committee selected nine finalists-three in each of the three thematic categories.

This nomination confirms that we are on the right path and that our efforts to create a better working environment resonate beyond our company. It also provides us with additional motivation to further improve our employee engagement initiatives. The success of the project demonstrates that its concept can be successfully applied in other sectors as well. In this way, the project becomes a model for other companies facing similar challenges and striving to create an encouraging and fulfilling work environment for their employees.

What our employees say about the project

Edisa Avdić Čiček, Senior HR Manager, said about the project: The "Best Employee" project is an opportunity to recognize and appreciate our colleagues who contribute significantly to the success of our company through their commitment, knowledge and attitude towards work and colleagues. This project allows employees to vote and nominate their colleagues, strengthening the sense of belonging, connection and teamwork. We are proud that our project is also recognized as good practice outside the company, which gives us additional motivation to continue and expand this initiative. The "Best Employee" project is not only a recognition of exceptional individual work, but also a reflection of a culture that values and encourages excellence."

The winners themselves are also very satisfied. In their statements, they highlighted various positive aspects: some focused on the value of recognition and motivation, others emphasized the significance of teamwork and collaboration, and many underscored the importance of a positive working environment. The common denominator of all the statements is gratitude for the recognition and the awareness that their work contributes to the success of the company.

The "Best Employee" project is proof that investing in employees is the best investment a company can make. With a culture of recognition, we have created a working environment in which employees feel valued, motivated and satisfied. This project not only rewards our employees but also strengthens our employer brand and contributes to the longterm success of the company.

Elsewedy Utilities pioneers as first private power distributor for New Alamein City

Elsewedy Electric Magazine; Issue 18

In an exceptional achievement, Elsewedy Utilities has been honored by the Council of Ministries to become the private power distribution company for New Alamein City. This historic milestone marks the first private distribution company in Egypt has been entrusted with overseeing electricity distribution on such a large scale, encompassing the scope of an entire city.

The project includes managing power for over 200,000 electricity users, through the implementation of Iskraemeco's smart electricity meters.

NUCA and its subsidiary "the New Alamein Authority", has entrusted Elsewedy Utilities with the crucial responsibility of ensuring seamless and reliable power distribution to the residents and businesses in the New Alamein City. This strategic partnership signifies the confidence that the council ministries place in Elsewedy Utilities' capabilities and expertise in the energy sector.

With cutting-edge technology and a commitment to innovation, Elsewedy Utilities is set to enhance the energy infrastructure of New Alamein City. The company's dedicated management of over 200,000 electricity meters, including Iskraemeco smart electric meters, demonstrates its capacity to efficiently navigate and optimize large-scale power distribution networks.

New Alamein City, spanning across more than 4.200 sqm, is a visionary project featuring high-rise buildings, commercial, industries, retails and residential sectors and with an impressive capacity about 628 MW covered through 3 different substations. Expected to accommodate more than 3 million people by 2030, this ambitious urban development aligns with Elsewedy Utilites' commitment to delivering world-class energy solutions and contributing to the sustainable development of New Alamein City. This milestone reinforces the company's position as a leader in the energy management industry, setting new benchmarks for private power distribution companies.

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Elsewedy Utilities powers future living in partnership with Roya Developments

Elsewedy Electric Magazine; Issue 18

Elsewedy Utilities secured a significant agreement with Roya Developments, formally establishing its position as the official Power Distribution company for two residential compounds– Stone park and Stone residence –situated in the Fifth Settlement, New Cairo, Egypt. The partnership underscores Elsewedy Utilities' position as an industry leader, aligning seamlessly with its core values of sustainability and technological innovation. The combined area exceeds 910 acres.

Leveraging our Power Distribution license, a robust 52MW capacity with 4500 of Iskraemeco's smart electricity meters, AM550, is being managed by our experts. Over the next decade, Elsewedy Utilities plans to provide power distribution, operation, and maintenance services for both compounds' entire electricity networks, with a focus on efficient metering management and responsive customer service. Leveraging its Power Distribution license, the company is taking a pioneering stance in revolutionizing energy solutions for these expansive projects.

As part of this commitment, Elsewedy Utilities will deploy 4500 cutting-edge lskraemeco's smart electricity meters, incorporating the latest technologies in smart city management. These meters not only ensure top-notch quality and efficiency but also signify the company's dedication to shaping sustainable communities.

This collaboration represents a forward-thinking approach to power distribution, merging Elsewedy Utilities' advanced solutions with Roya Developments' commitment to modern, sustainable living. As the official Power Distribution company for these distinguished residential projects, Elsewedy Utilities is not just delivering electricity; it is illuminating the path towards a greener and more technologically advanced tomorrow.

Elsewedy Utilities takes charge of electrical services at Tatweer Misr's Fouka Bay

Elsewedy Electric Magazine; Issue 18

Elsewedy Utilities proudly collaborates with Tatweer Misr to oversee the maintenance and operation of the electrical infrastructure at Fouka Bay. This comprehensive contract encompasses power distribution, power network operation and maintenance, electricity billing and collection, and a commitment to delivering topnotch customer service for a total of 860 units, managing 1720 water meters and Iskraemeco's AM550 smart electricity meters.

The partnership between Elsewedy Utilities and Tatweer Misr reflects a shared dedication to delivering excellence across every facet of the project. Hand in hand, they strive to enhance the living experience for Fouka Bay residents, setting new benchmarks in residential resort community management.

It is worth noting that Fouka Bay is an exceptional residential resort community developed by Tatweer Misr in the heart of Dabaa on the North Coast, encompassing an area of 1.3 million square meters. Villas, chalets, and apartments are available in Fouka Bay, bringing forth a unique experience with amenities of the highest standards.

NeoBox DC Charger shines at successful eMobility Day event

In July, Iskraemeco Kranj hosted an engaging eMobility Day event, where we introduced our comprehensive e-mobility product portfolio. The event kicked off with a presentation showcasing the full range of Iskraemeco eMobility solutions, setting the stage for the rest of the program.

The highlight of the day was the live demonstration of our latest DC EV charging stations. Our partners and customers had the chance to experience the innovative features of our newest models on the spot.

Our e-mobility experts presented two DC stars - the NeoBox and the UrbanBox – both of which attracted significant interest and sparked discussions about their capabilities. In addition to our DC chargers, we also showcased our AC charging portfolio, giving attendees a well-rounded view of Iskraemeco's eMobility offerings.

In September, Iskraemeco e-mobility made a successful debut at the UVE Fair in Portugal, organized by UVE – Associação de Utilizadores de Veículos Elétricos, where we introduced our advanced electric vehicle charging solutions.

Hosted at the ChargeGuru partner booth, we showcased our range of AC and DC chargers, allowing participants to experience the efficiency and functionality of our products in real-time with electric vehicles.

The event highlighted the growing demand for reliable, high-performance EV charging solutions, and the feedback we received from attendees was overwhelmingly positive. Many visitors expressed a keen interest in our charging technologies, confirming that our solutions meet the needs of today's rapidly expanding electric vehicle market.

Our first appearance at the UVE Fair offered us a chance to connect with industry leaders, share insights, and explore growth opportunities.

Iskraemeco eMobility solutions at UVE Fair

Iskraemeco Group sells its India electricity meters operations to **Kaynes Technology**

In a strategic business move, Iskraemeco Group has sold its India-based electricity meter operations to Kaynes Technology, a prominent player in electronics design and manufacturing services.

Under Kaynes Technology's ownership, Iskraemeco India will continue to serve the Indian market, focusing on the supply, operation, and maintenance of smart electricity meters. Moving forward, they will provide specialized products tailored to meet the unique needs and standards of the Indian market, ensuring seamless performance and localized support. This move does not impact Iskraemeco Group's existing operations outside of India.

This strategic move is aligned with Iskraemeco's strategy of focusing on energy and water solutions through digital platforms like Symbiot Head-End System (HES) and Symbiot Meter Data Management (MDM). With this approach, Iskraemeco will continue to play a key role in India's rapidly growing energy market while expanding our technological capabilities to meet global demand.

We will maintain our presence in India by establishing a Technology Development Center (TDC). As part of the Iskraemeco Group, TDC will focus on technology development, further strengthening the company's global business.

Beyond the transaction, Iskraemeco and Kaynes Technology are further exploring potential areas of cooperation. This creates opportunities for both companies to expand their partnership, by combining our expertise and offering innovative energy solutions to the Indian market and globally.

lskraemeco's strategic engagement at Enlit Europe 2024

While Enlit Europe 2024 in Milan marked a shift in Iskraemeco's traditional approach to the event, our commitment to fostering strong relationships and advancing innovation within the energy sector remained the same. This year, for the first time in many years, we strategically chose not to participate as an exhibitor. Instead, we focused on a more targeted presence by engaging directly with our valued customers and partners through pre-arranged meetings and dynamic discussions across the event.

Our team maintained an active presence on the fair, welcoming our customers and sharing our latest innovations and solutions within the context of industry trends. Key aspects of our portfolio and insights into our technological developments were also visible at the ESMIG, DLMS, OMS and G3PLS booths, underscoring our dedication to collaborative innovation and interoperability within the energy landscape.

A highlight of our engagement was the participation of Aleš Potočnik, Iskraemeco's global director of the Technology Design Center and executive board member of ESMIG, in a panel discussion on interoperability. Taking place on October 22 at the Digital Tech Hub, this discussion emphasized critical advancements in interoperability-demonstrating our thought leadership and commitment to seamless integration in energy systems.

This year our approach has been part of a broader initiative to focus on local markets and further solidify the foundations of our partnerships throughout the whole year. By prioritizing meaningful, one-on-one interactions, Iskraemeco reaffirmed its dedication to driving energy, water and digital innovation while supporting our customers with tailored, forward-looking solutions. Enlit Europe 2024 provided the ideal platform to engage directly, offering valuable insights into industry trends while reinforcing our commitment to fostering a sustainable and interconnected energy future.

Our conversations have opened new avenues for collaboration, and we are excited to continue these meaningful discussions beyond the event. As we move forward, Iskraemeco remains dedicated to supporting our partners with innovative solutions and deepening our impact across local and global energy markets.

Iskraemeco showcases smart solutions for efficient water management at Accadueo H2O 2024

On November 20-21, Iskraemeco participated in Metering Days 2024 in Fulda, Germany, presenting solutions for digital transformation in the energy sector.

At our booth, we demonstrated the Symbiot software suite, a digital platform for advanced data analytics and real-time monitoring, with a focus on the Symbiot Twinner and the newly launched IE.7 and IE.7 RC smart meters.

Visitors attended live demos of Symbiot applications including HES, MDM, FieldAssist, and Twinner, each offering data visualization and insights for optimized grid operations. Our experts conducted Q&A sessions to explore the customization and adaptation of these solutions. Ivan Kern, Head of sales for Germany, delivered a keynote presentation on Iskraemeco's approach to digital energy solutions, explaining how Symbiot Twinner's use of data analytics and AI can support efficient grid management and enhance network flexibility.

The Iskraemeco team successfully presented our solutions for efficient water management at the Accadueo H2O 2024 trade fair in Bari.

The IW.1 water meter, equipped with the latest technology, which enables accurate measurement of water consumption and process optimization, attracted particular attention. Participating in the trade fair was an excellent opportunity to get in touch with leading experts in the field of water management and present our innovative solutions.

Our experts presented how our digital solutions - smart water meters and communication modules - help water utilities improve operational efficiency, reduce costs and improve service quality for end users. The positive feedback from visitors confirmed that our solutions are the right choice for modern water management.

Metering Days 2024

Austrian energy congress 2024

Iskraemeco participated in the Austrian energy congress 2024, held at the Conaress Center Villach, Carinthia. Under the theme "Let's do it!", the event focused on pressing issues in the energy sector, particularly the transition and transformation of the energy system.

Key topics included the evolving role of Distribution System Operators (DSOs). digitalization, grid flexibility, and cybersecurity. The congress gathered over 700 energy industry representatives, including policymakers, business leaders, and academics, to discuss these critical themes and to support the shift toward a more flexible and sustainable energy network.

Iskraemeco contributed actively to these discussions, presenting innovative solutions such as the Symbiot Twinner and the newly launched IE.7 RC smart meter with Rogowski coils, now upgraded with power quality monitoring features. Iskraemeco has designed these technologies to enhance grid visibility, improve decision-making, and tackle the growing complexity of modern energy networks.

Iskraemeco plans to showcase further advancements in flexibility solutions at the next event in two years, demonstrating how DSOs can more effectively manage demand and generation flexibility.

In collaboration with our parent company, Elsewedy Electric, Iskraemeco participated in the World utilities congress 2024, held from September 16th to 18th in Abu Dhabi.

This global event is a key gathering for leaders, policymakers, and innovators within the utilities sector, providing a unique opportunity to showcase the latest advancements in energy and water solutions. As part of Elsewedy Electric's broader presence, Iskraemeco focused on innovations in smart electricity and water sectors, particularly through our flagship Symbiot software suite. This advanced platform offers modular applications designed to support sustainable energy management, resource efficiency, and smart infrastructure, reinforcing our role as a leader in the utilities sector.

The world utilities congress provided an excellent environment for networking with potential clients, industry partners, and key stakeholders. Our presence not only increased Iskraemeco's visibility but also offered valuable insights into market trends, emerging technologies, and potential areas for future collaboration.

The Arab water forum was held at the same time, creating additional synergies and opportunities for discussions around water management - an area where our expertise and metering solutions have significant relevance.

World utilities congress 2024

53 years of successful partnership with **KDK Dornscheidt**

From October 20 to 22, 2024, Iskraemeco participated in the 4th CIRED Conference in Mostar, Bosnia and Herzegovina, showcasing our latest solutions for efficient grid management and advanced digital tools tailored to meet the needs of modern Distribution System Operators (DSOs).

On October 22, the team presented the Symbiot software suite, a platform designed to address the complexities of today's energy distribution networks. The presentation attracted over 60 attendees and highlighted key challenges faced by DSOs, including regulatory changes, rising operational complexity, and the demand for more efficient network management. The Symbiot suite, along with Iskraemeco's smart meters and Symbiot Twinner application, was featured for its capabilities in providing actionable insights through predictive analytics and real-time data processing to enhance network resilience.

During the event, Iskraemeco engaged with key stakeholders, including representatives from JP EPBiH, JP HZHB Mostar, and Elektroprenos a.d. Banja Luka. Vedran Lakić, Federal Minister of Energy, Mining, and Industry, also visited to discuss Iskraemeco's contributions to the sector.

Looking ahead, Iskraemeco plans to present the IE.5 meter at the 2025 BHK CIGRE Consultation, alongside more detailed presentations of new generation IE.7 smart meters and the Symbiot software suite.

Iskraemeco is proud of its long-standing partnership with KDK Dornscheidt. This successful cooperation spans 53 years and is the basis for many joint successes.

In November, we hosted senior representatives from KDK Dornscheidt, including managing director Jörg Hartmann and owner and managing director Heiner Dornscheidt. Together, we reflected on our rich shared history and laid the foundation for an even brighter future. During the meeting, we focused on several important topics, including presenting new products, exchanging views on current market conditions and setting common goals.

The focus of the meeting was on maintaining successful partnership and strong business. Together, we concluded that the key to future success lies in continuing to provide high-quality products manufactured in the European Union at competitive prices. In this way, we aim to demonstrate to our customers that choosing our products is the most thoughtful and sustainable lona-term investment.

This partnership enables us to offer our customers even better solutions and services. We look forward to continuing our cooperation with KDK Dornscheidt and are confident that we will achieve many new successes together.

The 4th CIRED conference Bosnia and Herzegovina

Slovenian electrical industry day 2024

On August 29, 2024, the Slovenian electrical industry day 2024 was held at the Chamber of commerce and industry of Slovenia, bringing together experts to discuss the impact of global trends on the Slovenian energy market.

At the event, Miha Trplan, product manager at Iskraemeco. presented our latest innovation: the eloT modular platform and the IE.X smart meters. He demonstrated how the eloT platform transforms these meters into multifunctional devices capable of supporting a wide range of applications, including energy management, grid monitoring, power quality assessment, public lighting control, e-mobility charging infrastructure management and integration of distributed energy resources (DERs).

We also highlighted the sustainability of these innovations, aligning with the principles of the circular economy and supporting environmentally responsible practices.

For more details, visit our web page and video series to learn more about our innovations and the team driving them forward.

In today's fast-paced world, it has become increasingly difficult to balance work and private life. Iskraemeco recognizes this and has taken proactive steps to create a work environment that helps our employees achieve a better worklife balance. We have taken a big step towards this goal by receiving the "Family Friendly Enterprise" certification.

This certification underlines our commitment to creating a workplace where our employees feel valued and supported. In the coming years, we will implement numerous initiatives to ensure that our employees can successfully balance their professional goals with their family commitments.

This certification is an important milestone for Iskraemeco. It not only benefits our employees, but also strengthens our company's reputation and competitiveness. By prioritizing the well-being of our employees, we contribute to a more sustainable and inclusive workplace.

Iskraemeco has been officially certified as a Family **Friendly Enterprise**

Family Friendly Enterprise

As we welcome 2025, we want to take a moment to reflect on the achievements we have accomplished together and express our gratitude for your continuous support, commitment, and collaboration.

This past year has been a landmark one for Iskraemeco, filled with growth, innovation, and milestones that have strengthened our journey to a sustainable future. Thanks to our dedicated employees, loyal customers, and trusted partners, we continue to reach new heights in Electricity, Water, Digital and eMobility solutions. Whether launching new products, enhancing our services, or exploring new horizons, each step forward has been possible because of the passion and expertise each of you brings to our shared mission.

2025 is set to be another exciting chapter, especially as we celebrate Iskraemeco's 80th anniversary. Together, we will honor our legacy while looking ahead to the future, inspired by the challenges we will tackle and the opportunities to drive positive change in our communities and industries.

Thank you for being part of our journey. Here's to another year of creativity, collaboration, and growth.

Happy 2025

Dear reader.

May 2025 bring you and your loved ones joy, health, and beautiful moments.

Warm wishes for a wonderful New Year!

for Life.

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