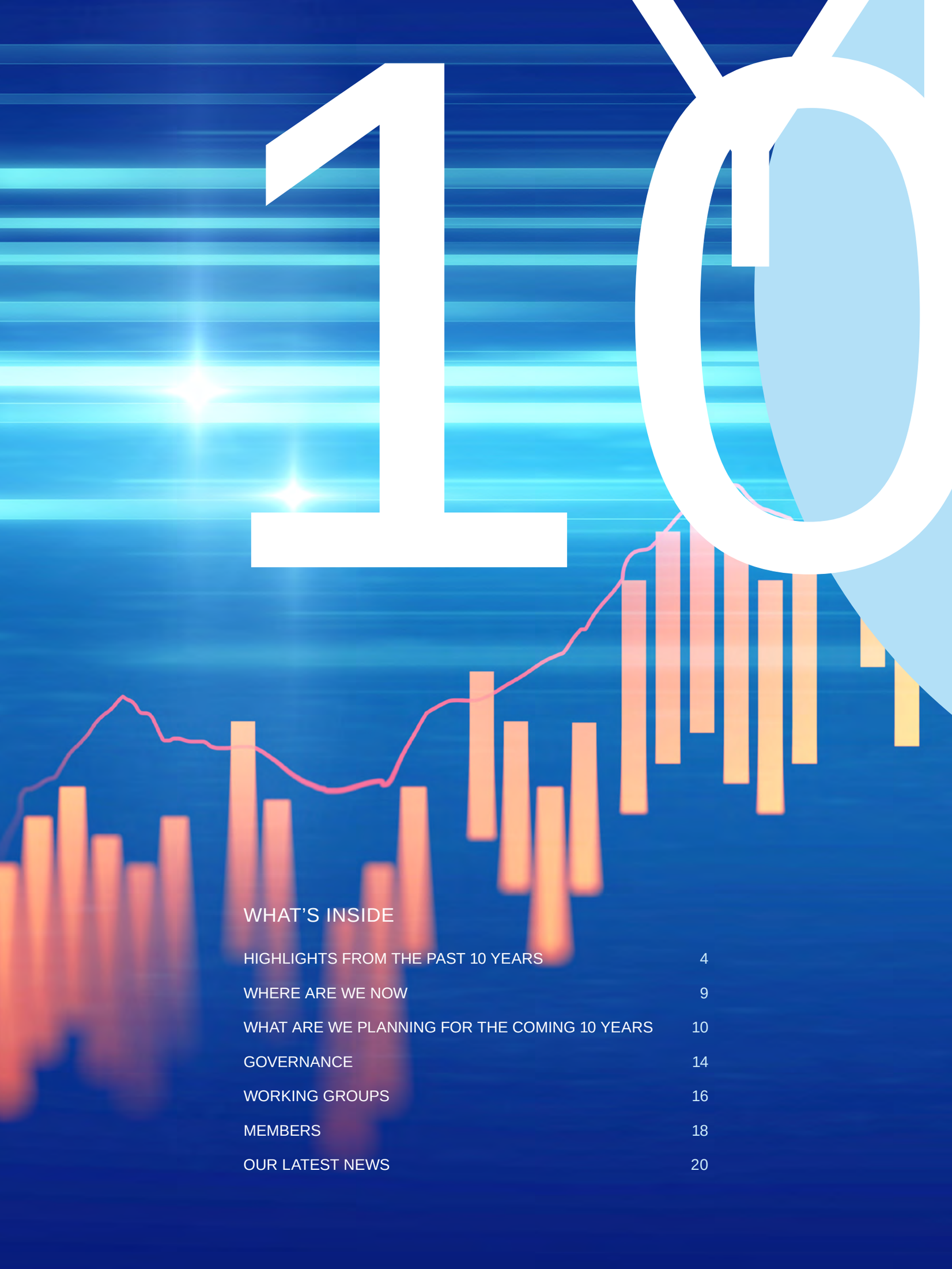
ESMIG

THE EUROPEAN SMART ENERGY SOLUTION PROVIDERS



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OF DIGITISING EUROPE'S ENERGY

Smart metering represents the greatest tool for consumer empowerment to reach the energy industry in the last 100 years. It brings both accurate information on consumption and costs to the energy market and also opens up new opportunities in areas such as demand response, home automation and the self-generation and consumption of energy.

Although routinely portrayed as simply the necessary replacement of old analogue meters, these devices are laying the foundations for the next level of digitisation, one that will drive the energy services of the future. Yet they are actually only a first step in engaging consumers. ESMIG was created to advance the uptake of this technology in Europe, by ensuring the appropriate legislation and framework are in place to permit their deployment and maximise benefits for consumers, the grid and society as a whole.

In recent years, it has become clear that realising the full benefits of smart meters means considering the associated impact of communications technologies, flexible demand, data, security, interoperability and consumer engagement. Our membership has come to reflect this development and we have evolved from the smart metering industry group to become the smart energy solution providers.

We have worked intensely in this capacity with the European Commission and Member States to advance smart meter roll-out and to understand what needs to be done when the roll-out is complete, if we are to realise the expected benefits.

Simultaneously, we have worked with our members to find innovative solutions to address the challenges of interoperability, security, consumer tools and data management. There are a number of examples; developing minimum security requirements for smart meters, improving interoperability between smart grids and smart home and for demand-side flexibility, achieving solutions for the free flow of energy data, demonstrating the full consumer energy-management architecture, advocating the importance of consumer feedback tools and using real-time data, commissioning studies to identify best practices and examples of pilots and roll-outs across Europe.

We have established a prominent position as the representatives of smart energy solution providers in Brussels. In addition to our continuous efforts in supporting the roll-out of smart meters, we are focusing on those technologies and regulations that allow consumers to actively participate in the energy markets.

Increasing digitisation will change Europe's energy system fundamentally. This trend offers clear benefits, such as consumer empowerment, grid optimisation, new service development; however it also presents challenges relating to security and personalisation as well as ensuring that the system is used optimally and reduces costs for consumers. This means our role will continue to grow within this digital world and we will continue our mission of advancing smart energy technologies in Europe and contributing to a clean energy future.

2008 2020

HIGHLIGHTS FROM THE PAST 10 YEARS

2008

ESMIG was created by a group of five smart meter manufacturers.

Ten years ago, we strongly believed that European energy measurement markets were about to undergo significant changes, with utilities making substantial investments in smart metering. Our goal in establishing ESMIG was to help anticipate and plan for these changes, creating an organisation that better reflected the interests of all industry players.

ANDREAS UMBACH,
CEO, LANDIS+GYR AG,
FOUNDING PRESIDENT OF ESMIG

2010

Within two years, ESMIG had recruited 28 members from both product manufacturers and service providers.

The vision was to create a professional organisation that could help accelerate the roll-out of smart metering by providing guidance for the Commission and the wider energy industry. The scope was defined as including any product or service provider in the emerging smart metering industry; this saw the rapid expansion of membership from its original five to over 20 within two years.

HOWARD PORTER,
CEO BEAMA
FIRST ESMIG MANAGING DIRECTOR

2012

ESMIG was established as the reference organisation in Brussels for issues such as smart metering, interoperability or cybersecurity. In order to support countries with their specific issues, we created national groups, such as those in Germany and the Netherlands.

We felt that several countries needed support with the interpretation of European legislation. Furthermore, we had experience from the projects of early movers, which would provide valuable input for those countries still in early phases of implementation. As many countries are still "on the move", we currently have activities ongoing in Lithuania, Romania, Belgium and the Netherlands.

WILLEM STRABBING,
CURRENT ESMIG MANAGING DIRECTOR

018

2017

ESMIG's updated strategy focused on three main areas: improving market conditions to support the roll-out of smart technology, advising on new legislation and on implementation of that already existing and supporting new energy market players focused on service-oriented models.

> **It was time to move ESMIG from a pure metering player to a smart energy services key actor. We opened the door for start-up experts in home technologies and energy efficiency services and at the same time developed a long-term vision for helping Europe's 250 million consumers to adopt technologies and services with substantial socioeconomic benefits. Within the EU SmartGrids technology platform, then within ETIP SNET for energy transition, we worked with major European energy and consumers associations, technology providers and industry as well as research and innovation policy makers to create a common vision for the energy of the future. Only together will we build a sustainable future for Europe.**

MAHER CHEBBO,
CHIEF BUSINESS INNOVATION OFFICER DIGITAL GE
ESMIG PRESIDENT, 2014-2018

2015

As our members evolved towards more integrated solutions for smart energy, the scope of ESMIG moved beyond simply smart energy measurement to embrace smart energy management. We began to focus on consumer issues, creating a Consumer Energy Management (CEM) group and a consumer-specific portal (www.my-smart-energy.eu). We adapted our structure and fees to encourage smaller companies into our membership and thus became The smart energy solution providers

> **With some smart meters becoming a standard feature in homes in most European countries of Europe, the efforts of ESMIG have now turned to the role of these meters in supporting advances in energy management within the home. However, if the full value of this investment is to be realised, it is vital that smart meters become the source of data for devices in the home as well as that for billing. Clever companies can derive considerable insight from meter data and the need for demand response in an all-electric home can become intelligent when tariffs based on time-of-use are introduced. The CEM is helping encourage that the right features become part of the smart meter infrastructure and is also helping move towards open markets, where demand response can work in practice.**

PATRICK CAIGER-SMITH,
CEO GEO AND CHAIR OF ESMIG'S
CONSUMER ENERGY MANAGEMENT GROUP

2018

We are celebrating our 10th anniversary with our 31 members. We remain heavily involved in EU policy, particularly in the Clean Energy Package, in supporting national roll-outs, in improving interoperability, security and in advocating for a smart, flexible energy system.

> **Having been 'present at the creation' of the association, it is truly an honor to be elected President at ESMIG's 10-year anniversary. Looking back at the last decade and how far the technology, regulatory framework and deployment of smart metering in Europe has advanced, the next ten years look very auspicious indeed. Digitisation will continue to transform not only the energy supply system, but society as a whole. ESMIG, with the dedication and commitment of our members will continue to employ our expertise to shape developments for the better.**

JOHN HARRIS,
HEAD OF REGULATORY AND GOVERNMENTAL AFFAIRS LANDIS+GYR
ESMIG PRESIDENT

2008	2018
MEMBERS	
5	31
TYPE OF MEMBERS	
Smart meters manufacturers	Companies that provide: Smart meters In-home-displays Data analytics Data visualisation Communications technologies Security solutions
FOCUS	
Advancing the smart meter roll-outs in Europe	Finalising the smart meter roll-outs in Europe with a focus on achieving tangible bene ts for consumers and society Advocating for a exible energy system Introducing new technologies that encourage and support consumer participation. Advocating for security and interoperability ‘by design’

SECURITY

WHERE ARE WE NOW?

ENABLING THE ENERGY TRANSITION

We are currently focused on recent political developments at both European – the Clean Energy Package and Cyber Security Act – and national levels. A number of member states still need to decide on the deployment of smart meters, while those that have begun deployment are discussing the extensions “beyond the meter”. We support member states by providing information on best practices as well as new services and technologies.

Although smart meters are now installed with interfaces that provide (near) real-time information, if consumers are to reap the full benefits that smart meters can offer, we have to ensure that the right regulatory environment is in place and appropriate solutions and services are available.

Where smart meters are in place, we believe the following steps are needed:

- Providing tools and services based on the availability of (near) real-time data
- Implementing consumer energy management solutions that control smart appliances, local generation and storage.

Emerging technologies, such as blockchain, might provide further opportunities to disclose meter data. This could allow consumers to control data flows and contract energy resources from, or offer their resources, to the market. We participate in pilot projects with new technologies such as these. At the same time we provide guidance for end-users on how to create interoperable and end-to-end secure infrastructures. Interoperable and secure products provided by ESMIG members are key.

We are continuing to increase our efforts to integrate standards and technologies from the telecoms and utilities industries. With solution providers from both industries among our membership, we can be the driving force in this integration, which will be key to creating smart cities.

We participate in organisations working on cybersecurity, including the Smart Grid Task Force Expert Group 2, the European Cyber Security Organisation (ECSO) and the European Reference Network for Critical Infrastructure Protection (ERNCIP). Establishing a European approach to security certification of our members’ products is a priority action for ESMIG. We also take part in organisations working on interoperability issues, including the Smart Grid Task Force Expert Group 1 and the Alliance for Internet Of Things Innovation (AIOTI). We believe that only multi-stakeholder approaches can make a real difference and lead to a successful energy transition.

WILLEM STRABBING,
ESMIG MANAGING DIRECTOR

WHAT ARE WE PLANNING FOR THE COMING 10 YEARS

Our 10-year anniversary represents a major milestone for our organisation. We are proud of what we have achieved in this time and we thank all of our current and past members for the roles they played during this journey. Looking forward, we see important changes coming in Europe's energy system and a huge potential to achieve a consumer-centred clean energy transition.

Below, you can read our perspective on the energy future, our thoughts on the conditions for making this happen and the role for Europe's smart energy solution providers. A more detailed 2030 Vision Paper will be published separately.

MAJOR TRENDS THAT ARE SHAPING HOW WE SEE ENERGY

1 CONSUMERS IN CHARGE

Consumers will increasingly participate in the energy system individually or through communities. Their active role in the energy sector is growing, thanks to an increase in shared platforms, off-grid solutions and automation. Utilities must be able to offer these extended services and uphold customer relationships; traditional players must keep pace with rivals that are innovating faster and generating greater value for consumers. Customer service budgets will need to focus on digital channels and personalised services aimed at 'Millennials' to build customer loyalty. By ensuring direct channels for communicating with consumers and providing real-time feedback, the quality of consumer services and products will increase substantially.

2 A SHARING ECONOMY OF ENERGY ASSETS

The energy infrastructure of the future is interconnected and consumers are exchanging under-utilised capacity of energy assets while incurring only low transaction costs, a phenomenon known as 'Uberisation'. Energy-neutral 'islands of energy' are connected through a backbone grid enabling the exchange of energy and providing limited backup resources.

In such a scenario, technology will be vital for accounting for who uses what, who is paying and making sure the grid is properly managed. Decentralisation brings many opportunities: enabling consumers to better express their preferences, creating new ways to improve power production and delivery and bringing lower-cost electricity to communities in need.

3 DEMAND-SIDE FLEXIBILITY AS THE NORM

The timing of electricity management, relating to where and when electricity is needed on the grid, will become even more important, due to an increasing reliance on distributed energy resources, electric transportation and a need for localised grid resiliency. In addition, consumers, either individually or through communities, will have the tools to increase their consumption during supply peaks and reduce it when the system has low supply or is overcrowded. The ability of these individuals and communities to produce, store and trade energy both to local consumers and to the grid will emerge as secure, distributed-ledger services become increasingly mature. With the right incentive schemes in place, this will optimise how the system is used and reduce costs for consumers.

4 USER-FRIENDLY AND ENERGY-EFFICIENT BUILDINGS AND HOMES

Buildings can play a major role in supporting the transformation of the energy system. More efficient heating, cooling, lighting, appliances and materials could substantially ease demand, which would in turn reduce the overall burden on the system. The ultimate goal of the connected and energy-efficient home/building is to be user-friendly, unobtrusive and convenient. The challenge is to embed a seamless, secure, multi-vendor experience as standard in new builds, without adding extra costs to the consumer.

5 PRIVACY AND SECURITY BY DEFAULT

The issue of security will increasingly feature on energy companies' agendas. Its importance should not be underestimated in the context of a growing decentralised energy system. Until recently, attack risks were localised, as the operational systems were isolated. However, with a decentralised system, these security risks will increase. The setup of digital flows connecting assets, organisations and people will require a fully-secured value chain. Security certification of products will be essential in reducing vulnerabilities and increasing trust. Moreover, transparency over data usage will also be key in driving trust for consumers, especially in their new role as producers.