ANNUAL REVIEW

Activities and Members

2020

ESMIG
WE MAKE ENERGY SMART

THE EUROPEAN SMART ENERGY SOLUTION PROVIDERS

WHAT'S INSIDE

ESMIG in a changing world

While writing these lines, the world is in the midst of a crisis caused by the corona virus pandemic. One of the lessons society can already draw from this crisis is that alone you cannot do a lot. What we need is solidarity, common rules, coordination, and leadership across borders.

This does not differ much from what we need inside our association. At the EU level, you can see that our newly elected European Commission is emphasising this as well. With their proposed green deal, they have increased the climate and energy goals. The target being to reach a CO_2 reduction of 50% by 2030 and to be carbon neutral by 2050 in Europe.

One element of the roadmap to achieve this is decarbonisation of the energy sector. Information technology, smart technology, policy frameworks and market instruments will help to enable this energy transition. So, what role does ESMIG play in this?

Article 3 of ESMIG's Statues reads:

''The Association's international aims is to represent and provide at European level expert knowledge within the field of smart metering and communications, to support and transparently advise European Union and Member State governments, regulators and utilities in relation to environmental, energy and consumer management services in relation to utility policy and legislation.

The main activities which the Association undertakes in order to achieve its aims are as follows:

Representation of its Members in national and international organisations, where matters of general interest are involved.

Study of the possible effects resulting from the creation of economic organisations such as the European Community, the European Economic Area or other customs unions, free trade areas and economic restrictions in the field of electricity metering.

Active participation in work of standardisation concerning smart metering in the context of national and international organisations (e.g. IEC, CEN, CENELEC).''

In order to fulfil our aims and objectives as described, we are organised in different working groups and task forces. The major outcome of this work you will see in this Annual Review.

To provide the most value for our members, we are currently assessing the European Commission roadmap and will adjust our organisation and working groups accordingly. The opportunities we see in our area are tremendous in the coming decade. Therefore, we have to be alert and focused on our goals. There is plenty more on offer that we can work on.

Thank you to all who have participated in our working groups, task forces and Executive Committee as well as the ESMIG secretariat for all their work and contribution. I encourage all our members to get involved in our work and actively participate to shape our common goals and shared future.

Dieter Brunner,
ESMIG President

About ESMIG

ESMIG is the European voice of the smart energy solution providers. We represent companies which provide products, information technology and services for multi-commodity metering, display and management of energy consumption and production at consumer premises.

These products and services help in making energy cleaner, more affordable and more reliable by enabling:

- a precise overview of consumption and manageable demand
- customised tariffs and accurate bills
- better outage detection
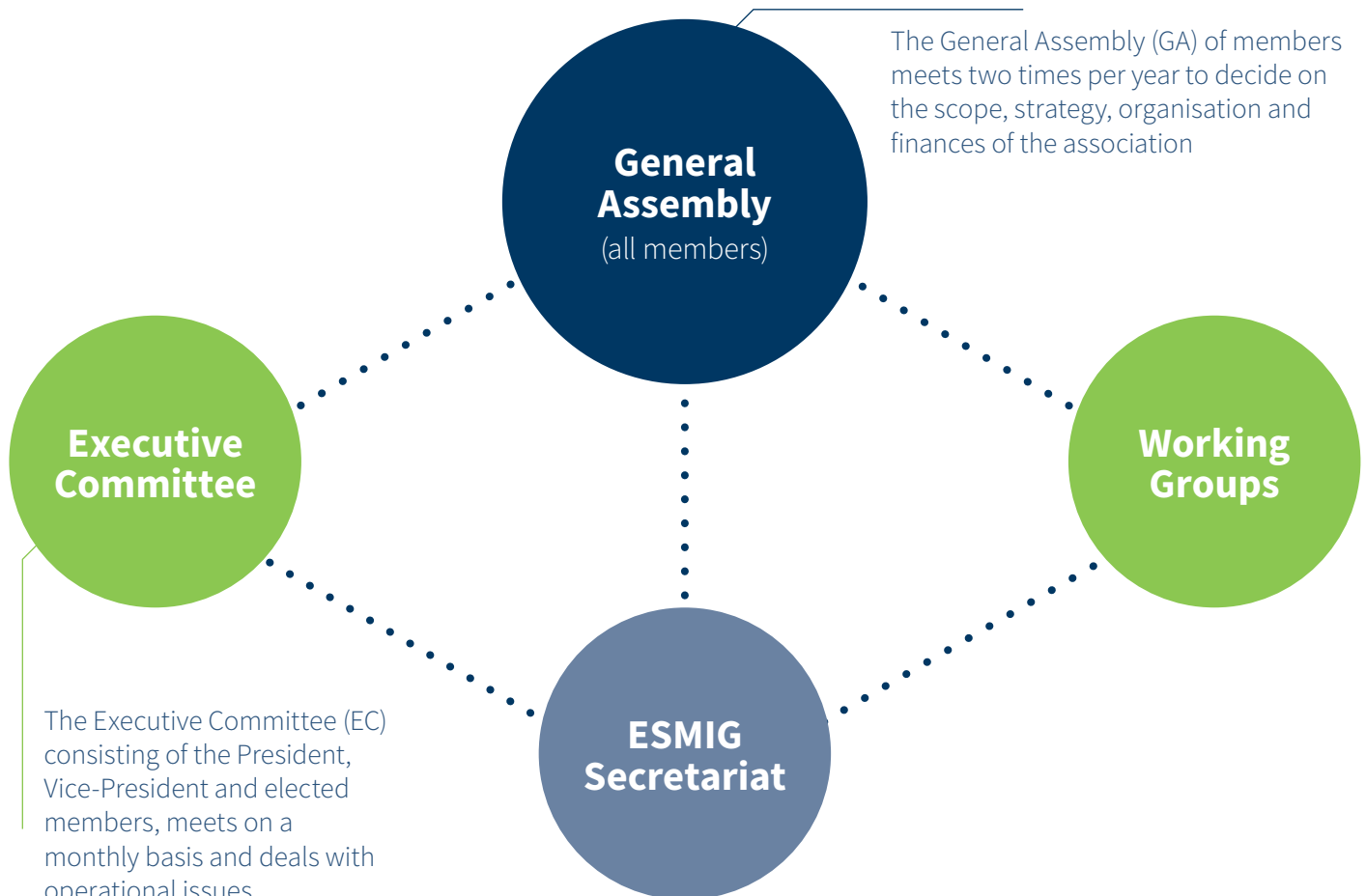
Information is at the core of our innovation
Our members' products and services provide the crucial ingredients in smart consumer energy management: they accurately measure, transfer and process energy related data while ensuring this data is relevant, safe and reliable.

We advocate for a regulatory framework that accelerates the introduction of our members' innovative products and services, which are fundamental to the smart energy and water systems of Europe's future.

We actively contribute to the creation of a competitive internal energy market by development of architectures and open standards that allow efficient implementation and integration of new energy management technologies and services.

How are we structured

The General Assembly (GA) of members meets two times per year to decide on the scope, strategy, organisation and finances of the association

General Assembly
(all members)

Executive Committee

Working Groups

ESMIG Secretariat

The Executive Committee (EC) consisting of the President, Vice-President and elected members, meets on a monthly basis and deals with operational issues

Executive Committee

Dieter Brunner
ESMIG President and
President of the Board
of Directors, Iskraemeco

Nigel Hughes
ESMIG Vice-President and
ESMIG MUM Chair and Vice
President Sales Marketing
and Deliveries, EMEA, Itron

Patrick Caiger-Smith
ESMIG CEM Chair
and CEO at geo

Wayne Flanagan
ESMIG CTG Chair
and Head of Energy
and Utilities at Vodafone

Javier Rodriguez Roncero
Sales Director EMEA
at Landis+Gyr

Working Groups

Storage and e-mobility Group (SEG)
The group advocates for technical and regulatory optimisations that enable seamless integration of storage and charging for demand side flexibility - for example, having open standards/architectures for this purpose.

Chair: **Cami Dodge-Lamm**, cyberGRID

Multi Utility Metering Group (MUM)
MUM focuses on the metrological and legal aspects of the advanced metering infrastructure. The group also manages relationships with related industry associations such as AQUA and Farecogaz. In addition, it reviews national requirements for smart metering.

Chair: **Nigel Hughes**, Itron

Consumer Energy Management Group (CEM)
CEM is dedicated to providing and encouraging information, research and constructive dialogue to improve the involvement of consumers in smart energy systems and thus optimise energy saving potential.

Chair: **Patrick Caiger-Smith**, geo

Security and Privacy Group (SPG)
The SPG investigates potential vulnerabilities of the metering infrastructure and identifies countermeasures. The group defines and maintains minimum security requirements for infrastructure elements and develops security certification schemes.

Chair: **Francis D'souza**, Thales

European Business Systems Integration and Interoperability Group (EBSII)
EBSII focuses on the enterprise system landscape and the interoperability of its components. This group is part of European efforts to standardise data exchange between energy market participants.

Chair: **Miguel Gaspar**, SAP

Marketing and Events Group (MEG)
MEG defines and implements ESMIG's communication strategy, including all events where ESMIG is represented, its involvement in exhibitions and conferences, its online presence and any printed materials.

Chair: **Ricardo Wigman**, GE

Regulation and Policy Group (RPG)
RPG maintains a watching brief on those EU regulatory and legislative developments with the potential to affect any aspect of smart energy management in Europe. It strives to ensure effective and coherent policy development and coordinates ESMIG's responses to political developments that affect the membership.

Chair: **Mojca Markizeti**, Iskraemeco

Communications Technology Group (CTG)
The major goal of this group is to ensure functional interoperability between the member companies' products. The CTG handles all communication technology related topics within ESMIG´s scope. The scope of this group is the data communication infrastructure for metering and consumer energy management.

Chair: **Wayne Flanagan**, Vodafone

32°
Sunny

1 Feb
Wednesday

Our work

In 2019, we achieved various results on both political and technical level.

The close cooperation with the European Commission has resulted in a Clean Energy Package that refers to the access to near real-time data provided by smart meters. Member States are required to offer interoperable access to consumption data. In 2020, we will work with the European Commission on further definition of the interoperability requirements for such data access. At several events we have reported about the gap that exists between the installation of smart meters and the access to consumption data by consumers or 3rd parties designated by consumers. As well as the European Commission, other stakeholders start to understand that more action on both the political level and technical level are needed to close this gap.

Regarding Cybersecurity, we worked mainly on two key files. The Cybersecurity Act adopted by the European Institutes, requires a European approach for the security certification of products, processes, and services. This legally supports the certification approach for smart meters we have developed and was adopted by official international security authorities in 2019. The draft e-Privacy Regulation now contains a provision that allows the collection of consumption data for the purpose of providing an energy service to consumers, without the need for consumer consent.

Our Security and Privacy Working Group started a new activity to define a standard for the exchange of security key material. This would substantially improve the configuration process for the implementation and maintenance of security keys.

Another initiative that started in 2019 was the development of a mutual approach for licensing 3G/4G ''Standard Essential Patents'' aiming at the best economic and general solution for our industry.

At the European Utility Week 2019 conference and exhibition, we presented our approach to reach interoperability and how this can be an example for demand side management. In our yearly demonstration several of our members combined their solutions to show a complete infrastructure for measuring, presenting, processing and analysing meter data. Furthermore, we included solutions for the management of consumption on consumers' side.

Willem Strabbing,
ESMIG Managing Director

Finalising the smart meter roll-outs in Europe with a focus on achieving tangible benefits for consumers and society

With a clear focus on digitalisation and the energy transition in Europe, ESMIG and the introduction of smart meters have an important role to play. As a key first step, smart meters are essential for a digitalised and decentralised energy system.

Economic benefits such as savings on energy bills and reduced meter cost are key, but the long-term results of these changes will see our current energy system transform to a smart, demand driven, flexible and green one.

While our work sees us advocate for such a transition, there are crucial intermediate steps that need to be taken to ensure such a transition is possible and done to the correct standard. This includes additional services and technologies that will work with smart meters and will allow us to reach full potential.

To realise this, we are continuously working with the European Institutions to encourage the smart meter roll-out and understand what is required across member states to enable us to meet this potential.

From the Clean Energy Package to the European Green Deal

Our continuous work on the Clean Energy Package with the European Institutions has seen legislation that includes access to near real-time data provided by smart meters. As a result, member states are now required to offer interoperable access to consumption data, and we will continue to work on the definition of interoperability requirements for such data access.

Alongside a new European Commission in 2020, we also welcomed the European Green Deal. Detailing the commitment to climate and environment related challenges, the European Green Deal provides the framework for achieving the climate target for 2030, a climate-neutral Europe by 2050 and the necessary energy transition. In line with the objectives of the Clean Energy Package, there will be bigger focus on addressing digitalisation and technology to achieve results.

This updated view, is a step in the right direction for our sector and addresses the key topics necessary for encouraging the implementation of smart meters which bring digitalisation, technology, and energy together.

In continuing our work with the European Institutions our next step will see us advocate for the move from a market driven by fossil fuels to a demand-driven energy system, integrating renewables and more local generation and storage solutions where the consumer is at the heart of the system.

New Manifesto: How to make Europe's Energy Transition a Reality with the help of Smart Technologies

Outlining key factors that will enable Europe to achieve the full benefits of smart meters and serving as a basis for our advocacy work, our manifesto highlights four areas that will make the energy transition a success and why smart technologies are crucial to achieving this transition. Through focusing on these key areas, we must also consider the associated impacts of communication technologies, flexible demand, data, security, interoperability, and consumer engagement.

We need support to:

- **Create the right market conditions**
  Regulatory barriers, a lack of practical experiences and slow political processes hinder the transition towards a digitalised, decentralised ad consumer focused energy system. Therefore, it is important to have a clear understanding of the roles, responsibilities, processes, and infrastructure that are needed in the new energy market structure.

- **Place the consumer at the heart of the energy system**
  An intelligent metering system is a prerequisite to the active involvement of consumers in the energy market.

- **Guard the privacy and security of energy data**
  Security and privacy will become even more critical parts of the energy industries agenda and this topic should not be underestimated in the context of a growing decentralised energy environment. The protection of consumers' privacy and the protection from cybersecurity threats must be an integral part of smart energy management infrastructures.

- **Implement the existing regulatory framework**
  The Clean Energy Package is an important step in achieving the energy transition. This legislation contains crucial provisions to create the right market conditions, to involve consumers and ensure privacy and security of energy data through its focus on technology and digitalisation.

The system and policies need to be designed with consumers in mind. This means providing accurate and timely information that will allow them to acknowledge their consumption and engage in energy generation, demand response, and to protect their rights and privacy.

MAKING EUROPE'S ENERGY TRANSITION A REALITY WITH THE HELP OF SMART TECHNOLOGIES

OUR KEY PRIORITIES FOR A CONSUMER FOCUSED ENERGY SYSTEM

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ESMIG event at the European Parliament
As we welcomed a new European Commission and new Members of the European Parliament, we organised a dinner discussion in February to present our manifesto exploring *how to make Europe's energy transition a reality with the help of smart technologies.*

With three key MEP's co-hosting, Ms Maria Carvalho (EPP/PT), Mr Ville Niinisto (Greens/FI) and Ms Claudia Gamon (Renew/AT), we gathered a cross-national and cross-party group of policy experts.

Alongside our members, we presented our key priorities for a consumer-focused energy system and explored how we can get there.

With keynote speeches from Mr Thor-Sten Vertmann, Member the Cabinet of Commissioner for Energy Kadri Simson, Mr Zeljko Krevzelj, on behalf of the Croatian Presidency of the EU and Mr Mark Van Stiphout from DG Ener (European Commission) the lively discussions focused on the future of energy policies such as how to ensure a consumer centred approach, guard the privacy and security of energy data and implement a regulatory framework that encourages rather that hinders a decentralised and open energy system.

Standard Essential Patents

Our Communication Technology Group established a new task force to work on SEP's as these patents ensure compliance with a technical standard. As key feature of SEP's, the Horizontal Guidelines[1] are crucial in preserving fair, reasonable and non-discriminatory (FRAND) licensing of SEPs and preventing abuses related to SEP licensing, which dramatically undermine innovation across a variety of industries in the EU.

It is not only crucial that we increase legal certainty regarding SEP's for our industry but that we ensure an economical solution that does not jeopardise the business case for the introduction of smart meters that could be damaging to the digitalisation of the energy system and participation of consumers.

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[1] Guidelines on the applicability of Article 101 of the TFEU to horizontal co-operation agreements.

New Task Force on the use of embedded SIM

Following a decision by our Communication Technology Group, a new task force was established to explore the use of the e-SIM within smart meters and its introduction into the energy sector. Identifying some barriers, the task force has decided to refresh a report about eSIM/eUICC developed alongside GSMA. The aim is to give an overview of the current landscape and propose recommendations to address the barriers.

Sustainable Energy Week 2019 session exploring ''What makes consumers tick? Best Practices and Tools''

Getting consumers on board is essential for shaping the future but there is a lack of understanding of the underlying factors that drive consumer choices and of the solutions and tools that increase their participation. So, we teamed up with the Jacques Delors Institute and Geonardo to shed lights on consumer motivations, engagement and patterns providing real examples that can help decisions-makers in their mission of reaching ambitions energy efficiency targets.

Ensuring smart meter data can be used at full potential by all authorised energy market participants

A key feature of the energy transformation is not only the roll-out of smart meters across Europe, but the new level of detail and information about consumer patterns and performance that can be provided through data. This data can benefit all actors in the energy market including consumers, network operators, DSOs, TSOs and new energy service providers.

For these benefits to be used to their full potential, we need to ensure that the data available is transferred, processed, and analysed in the best way. It also needs to be assessed in a safe, efficient, and non-discriminatory way by all authorised participants in the energy market.

To achieve this, our goal is to find the best technical solutions that can ensure this process while advocating for European standards that detail requirements for data and a universal approach across member states.

E-Privacy Regulation proposal raises concerns regarding the collection of data

As the central regulation regarding data, we keep a close eye on the consequences and implications the E-Privacy regulation proposal has for the energy sector. As data is a key component for reaching the potential of the market, we need to ensure it does not negatively impact the development of new, innovative business models.

ESMIG, together with e.on and Vattenfall met with DG-Connect to discuss concerns regarding the requirement of consumer consent for all data to be collected from ''terminal equipment'', with smart meters included. Though presenting our case, DG-Connect agreed that an exception is needed in the regulation and also agree that consumer consent would not be required for a ''service requested by the end-user'' and therefore allow the energy sector to collect smart meter data.

Sustainable Energy Week 2019 session exploring ''Data access platforms to facilitate data driven services''

With data representing a great opportunity on both the supply side and the demand side, we joined a discussion exploring new business models arising from a new inclusive energy transition, the potential opportunities for all market players and what guidelines could be put in place to help regulators ensure that consumers expectations and benefits are met.

Supporting the European Commissions' Expert Group 1 of the Smart Grid Task Force

Set up in 2009, the goal of the task force is to explore smart grid services and operation, and how best to deliver smart grids for the benefit of the energy system and its users. ESMIG was invited to be a part of the editorial team of an Expert Group, starting in 2020, that will write the report about the standardisation of consumption data access for consumers and 3rd parties. This report will serve as input for the secondary legislation following the Clean Energy Package.

Advocating for security and interoperability of the advanced metering infrastructure

All over Europe, companies have created impressive technologies for home energy management. However, they are not yet connected in a way that can empower consumers and maximise savings. If products and systems cannot talk to one another, the benefits they promise cannot be realised. Therefore, interoperability is crucial in driving consumer adoption of energy management solutions going forward.

Additionally, security of the advanced metering infrastructure is essential in gaining consumer trust and protecting their data, as well as the hardware from attacks. Recognising this, we have made it our priority to advocate for and promote the importance of security and interoperability.

First approved European standard approach for security certification of smart meters

The first set of harmonised requirements developed by CEN/CENELEC/ETSI Coordination Group for Smart Meter, with the support of ESMIG, has been officially approved by CEN/CENLEC and certified under common criteria by the Dutch certification body NSCIB.

As the Cybersecurity Act, introduced in 2019, requires a European approach to the security certification of products and services, this approach has come at the perfect time.

This protection profile ensures that any of the certification bodies members of the SOG-IS agreement, will gain recognition across 17 European countries that have signed the agreement. Serving as the basis for security certification of smart meters, it enables the mutual recognition of certificates by multiples member states and prevents further fragmentation of certification approaches across Europe. This not only reduces the cost of certification but increases the security level of smart grids.

Securing the smart grid and related communications systems is crucial for a successful energy transition in which reliability and security are key in achieving the trust of consumers.

Interoperable, multi-vendor smart meter and smart home demonstration at European Utility Week 2019

With more meters being installed, the potential of using meter data for the benefit of consumers and grid operators is rising exponentially.

ESMIG and its members showcased the exciting possibilities and advantages of using meter data by putting together an innovative, interoperable, multi-vendor smart meter infrastructure that not only enables the collection of billing data but also facilitates smart meter-based grid management and provision of real-time data for consumer-focused applications.

This infrastructure is based on existing standards such as CIM (IEC 61968-9), DLMS/ COSEM and MBUS and shows a fully cloud-based interoperable solution for grid operators/ energy suppliers and consumers.

With results demonstrated at European Utility Week, key points demonstrated highlight:

- Interoperability is a reality. Standards are available and the industry has defined the necessary addition that complete the package for reaching full interoperability.

- The technology is available to securely process data from smart meters in cloud applications and manage the protection of metering assets as well as their data transfer and storage.

- Real-time consumption data feedback results in substantial savings for consumers. Advanced technologies complete a smart meter roll-out and should be offered to consumers alongside installation.

New task force to define a standard for the exchange of security key material

A smart metering key distribution system can provide a security key management system such as key generation/distribution between AMI components. Recognising the importance of security features for smart meters and the safe transmission of information between technologies ESMIG's Security and Privacy Group decided to set up a new task force to define a standard for the exchange of security key material. Alongside this, the task force will also focus on the organisation and the maintenance of the format and recommendation for its use.

Addressing the standardisation landscape at ''Cybersecurity Standardisation and the EU Cybersecurity Act – What's Up?''

The event, hosted by ENISA, ETSI, CEN and CENELEC, addressed the challenges in the standardisation landscape for cybersecurity in light of the EU Cybersecurity Act. Taking part in the panel ''First scheme – difficulties and success stories'' we were glad to get involved in the dialogue between policy makers, industry, research, standardisation organisations, certification organisations and those involved in the development of the ICT certification framework in Europe in view of an effective implementation of the Cybersecurity Act.

Driving the deployment of flexible demand-side resources to support EU's clean energy transition

Demand-side flexibility can play a key role in reducing overall system costs. For this to happen, consumers should have the chance to participate in demand-side flexibility and get rewarded if they choose to do so. Smart metering systems are the necessary infrastructure in this process as they are used for the measuring and settlement process. As such, they form the basis for a flexible demand-driven energy market.

EU Sustainable Energy Week 2019 session – ''How can we reach net-zero emissions in Europe: renewables, energy, and demand-side flexibility''

With European Institutions focusing on a strategy for the reduction of emissions, ESMIG was glad to participate in a discussion that highlighted how going climate-neutral is both feasible and beneficial if the potential of decentralised energy solutions, like energy storage and demand response, is fully grasped to drive demand-side flexibility.

Increasing demand-side flexibility is crucial in supporting the integration of renewable energy and empowering consumers to be active players in the energy market, reducing overall system costs and increasing security of supply.

Sharing insights at E.DSO and InnoEnergy workshop ''Data and innovation: Driving the electrons that make your future

Although the roll-out of smart meters that can provide real time data is processing, the offering of tools and services based on this data is lagging behind. ESMIG presented its research highlighting that consumers can save 7-9% on gas and electricity consumption based on real-time insight, highlighting that through access to data, the benefits for consumers are clear.
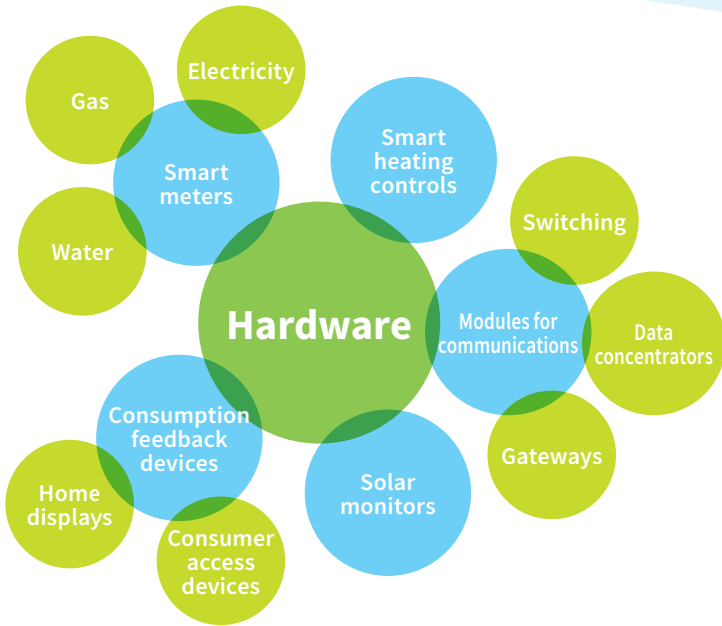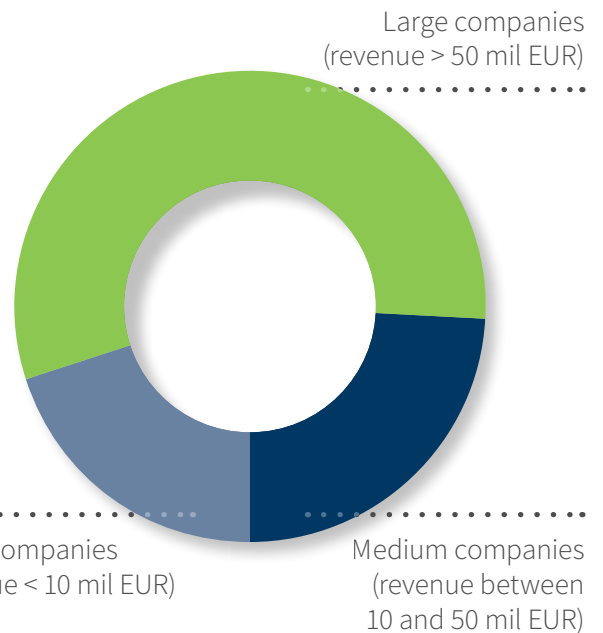
Our members

ESMIG member companies provide:

Hardware: Gas, Electricity, Smart meters, Smart heating controls, Water, Switching, Modules for communications, Data concentrators, Consumption feedback devices, Home displays, Consumer access devices, Solar monitors, Gateways

Solutions for: Grid operational efficiency, Data communications, Data analytics, User engagement, Data visualisations, Billing, Data security

Revenue

Total of ESMIG member companies	**€ 196.5 B**
The revenue of the smallest company in the ESMIG membership	**€ 1.1 M**
The revenue of the biggest company in the ESMIG membership	**€ 95.2 B**

Breakdown by revenue

Large companies (revenue > 50 mil EUR)

Small companies (revenue < 10 mil EUR)

Medium companies (revenue between 10 and 50 mil EUR)

Employees

Total employees of ESMIG member companies	**320 068**
The smallest company in terms of employees in the ESMIG membership	**20**
The largest company in terms of employees in the ESMIG membership	**105 603**

Reach

ESMIG members cover all European countries and some of them more than **180 countries** globally.

Other facts

ESMIG member factories/software development centres/excellence centres in Europe	**240**
ESMIG member headquarters in Europe	**19**

Aclara Technologies

At Aclara Technologies, we help utilities manage change, seek new approaches, and harness data and new technologies to supply more efficient and reliable services to their customers. As an end-to-end, smart infrastructure solutions (SIS) partner they couple innovative technology with data-driven solutions to predict, plan and respond to system conditions across electric, gas or water distribution networks.

www.aclara.com

Saint Louis, Missouri
USA
HQ

Main products

- Electricity meters
- Communications systems and components
- Visualisation of energy data
- Load management systems
- Grid sensors
- IoT soulutions

- User engagement and advice platform
- Billing services
- Network monitoring and control solutions
- Metering information systems

Manufacturing/assembly plants in Europe (2019 data)

1

Markets where the company is present (2019 data)

EU countries **4**

Outside EU **52**

Number of employees (2019 data)

In Europe **900**

In total **1 700**

Highlights from the past year

Aclara Technologies Smart Infrastructure Solutions (SIS) elevates current automated metering infrastructure (AMI) technologies to a far more advanced and encompassing approach to managing distribution systems for electric, water and gas networks.

SIS integrates a range of hardware, software and data technologies from grid edge devices, sensors, intelligent software and communications to collect and process data that delivers actionable insights to make distribution systems more efficient, responsive, resilient and reliable.

The versatility of SIS allows utilities to move beyond legacy systems with a more real-time, model-based approach to provide greater network visibility, manageability and actionable information for utilities and their customers.

Apator

Apator Group provides metering equipment for all utilities (electricity, gas, water and heat), remote media reading systems and energy management applications. Designing devices and services ensuring the effective and safe assets management is an important pillar of the company's business. Power network automation systems and services for Smart Grids like SCADA and Asset Management Systems are our important business activities. Our goal is not only creating new technologies to effectively manage every kind of energy, but also customer safety and care for the environment.

www.apator.com

Torun
Poland
HQ

Main products

- Electricity meters, water and heat meters, gas meters, smart meters
- IT solutions
- Power automation products and services (for Smart Grid)
- Smart city solutions

Manufacturing/assembly plants in Europe (2019 data)

Torun (Poland), Tczew (Poland), Poznan (Poland), Lodz (Poland), Swidnica (Poland), Slupsk (Poland), Coventry (Great Britain), Sumperk (Czech Republic)

Markets where the company is present (2019 data)

EU countries: Poland, Great Britain, Netherlands, Czech Republic, Germany, Denmark, Austria, Belgium, Hungary, Italy, Spain, France, Romania, Lithuania, Bulgaria, Serbia

Outside EU: Russia, Ukraine, Turkey, Morocco, India, Indonesia, Columbia, Israel, Georgia, South Korea, Belarus

Number of employees
(2019 data)

In Europe

+2 500

In total

+2 500

Highlights from the past year

Apator is involved in European smart metering roll-out projects for gas and electricity. They establish new standards for grid automation systems and develop and support open smart metering and smart grids protocols like PRIME, G3 PLC, OSGP, DLMS, SCADA IEC 61850 and many others.

Arkossa Smart Solutions, SL

Arkossa services facilitate the smooth implementation of operations and maintenance of the smart meter infrastructure and other related elements in an efficient and well-organised manner.

Our services enable DSOs to enjoy the benefits of Big Data coming from smart grids without spending time and resources in obtaining it.

Thanks to Arkossa, utilities can reduce operational costs, improve their decision making and expand the lifespan of their equipment.

www.arkossa.com

Granada
Spain
HQ

Main products

Arkossa services covers all the areas necessary for electrical distributors to operate their smart grids on a daily basis.

We offer:

- Compliance with the regulatory framework, such as GDPR

- AMI monitoring
- Network security
- Integral maintenance of the AMI
- Operations management
- Information security and backup
- Specialised technical support
- Power quality

Technical centres/laboratories in Europe (2019 data)

1

Markets where the company is present (2019 data)

EU countries: Spain, Portugal, Italy, Slovenia, Denmark, Estonia, Croatia

Outside EU: Peru, Argentina, Colombia, Israel, Qatar, Pakistan, Ethiopia, Australia

Number of employees (2019 data)

In Europe **38**

In total **38**

Highlights from the past year

Increasing added value PLC metering roll-out services, principally in Iberia and Central-Eastern Europe, with the main DSOs in each country.

In Iberia area, PLC optimisation and monitoring metering digital networks services allow Arkossa to be a reference in these kind of innovation services in market.

Chameleon Technology (UK) Ltd

CHAMELEON™ TECHNOLOGY

Energy technology company Chameleon Technology is a pioneer in the Energy IoT. By securely accessing real-time energy data from smart meters, Chameleon provides feedback and insights to consumers via smart in-home displays (IHDs) and other cloud-connected devices.

Through its I•VIE data platform, together with enhanced IHDs, home energy management interfaces and voice-enabled technology, Chameleon is helping tomorrow's energy consumers define how they can optimise their home and lifestyle within the rapidly evolving world of digitalised, decarbonised energy.

Chameleon's solutions are interoperable with a wide range of technology environments and system architectures and can be specified for different country requirements.

www.chameleontechnology.co.uk

Harrogate
United Kingdom
HQ

Main products

- In-Home Displays for Smart Meters
- Consumer Access Devices for Smart Meters
- Data Platform and Cloud Solution with personalised insights

Markets where the company is present (2019 data)

EU countries: UK, France

Outside EU: Hong Kong

Number of employees (2019 data)

In Europe
42

In total
48

Highlights from the past year

As an extension of its I•VIE data platform Chameleon partnered with Samsung to launch the SmartThings Energy Control app, which utilizes near real-time smart electricity and gas meter data via the Chameleon Consumer Access

Device to provide intuitive control to Samsung appliances as well as useful energy insights over a common user interface.

The company continues to be ranked one of the fastest-growing technology companies in the UK and is the most widely preferred IHD and CAD solution provider to UK energy suppliers for their smart meter rollout programmes.

cyberGRID GmbH & Co KG

cyberGRID technology adds intelligence to the energy transmission, distribution and supply system and is a European leader in pioneering ICT solutions and consulting services in the EU energy sector. In the changing power market, we help operators to manage different flexibility assets as our digital platform enables the integration of loads, renewable energies, storage/battery devices, and energy markets of various sizes.

In doing so, the cyberGRID system boosts the efficiency of the entire energy system, thereby supporting European-wide decarbonisation efforts, such as the EU Green Deal.

🌐 www.cyber-grid.com

📍 Vienna
Austria
HQ

Main products

- cyberNOC – a Flexibility Management Platform allows a large number of energy assets, i.e. "flexibilities", to be connected to various electricity markets. Assets typically include Commercial and Industrial loads (C&I), distributed (DG) and renewable energy generation plants (RES), and Battery Energy Storage Systems (BESS)

- Consulting and research

Manufacturing/assembly plants in Europe (2019 data)

1

Markets where the company is present (2019 data)

Commercial Projects: Austria, Slovenia, Germany

Innovation Projects: Europe-wide (EU and non-EU).

Number of employees (2019 data)

In Europe **20**

In total **20**

Highlights from the past year

Awarded participation in a new H2020 project "MAESHA" designed to achieve energy independence for the French island of Mayotte and 5 follower islands. cyberGRID's technology will help DSOs to actively manage the grid by utilizing flexibility of various energy assets (C&I, RES, BESS and EV).

cyberGRID is currently involved with 6 other EU Horizon 2020 R&D projects featuring its cyberNOC platform (FutureFlow, InteGrid, CrossBow, Magnitude, Talent, and InterConnect).

Commercial projects in Austria and Slovenia support large-scale utility customers.

Received the Power Network Innovation Award in May 2019 for cyberGRID's technology and its concrete impact on the future of the power networks, specifically on battery integration and providing services to grid operators and the markets.

GE

GE Digital is transforming how industry solves its toughest challenges. GE Digital's mission is to bring simplicity, speed and scale to its customers' digital transformation activities, with software that helps them to better operate, analyse and optimise their business processes.

GE Digital's product portfolio – including grid optimisation and analytics, asset and operations performance management, and manufacturing operations and automation – helps industrial companies in the utility, power generation, oil and gas, manufacturing and other industrial sectors put their industrial data to work. For more information, visit www.ge.com/digital.

www.ge.com/digital

San Ramon, California
USA
HQ

Main products

GE Digital's Grid Software: Advanced Distribution Management Solutions, DER Orchestration, Advanced Energy Management

Solutions, Asset Performance Management, Mobility Solutions, Utility Analytics, and Utilities Communication

Manufacturing/assembly plants in Europe (2019 data)

48 locations and **7** IMS Centres

Markets where the company is present (2019 data)

EU countries **24**

Outside EU **106**

Number of employees (2019 data)

In Europe **~ 700**

In total **4 000**

Highlights from the past year

Software is mission critical. Our customers are on the front line of the world's toughest industrial challenges: enabling more renewable energy on the grid; reducing emissions; increasing plant productivity; adapting to demand and keeping their teams safe. Now more than ever, software is mission critical to achieving these goals.

GE Digital is well positioned to help its customers win. With over 30 years' experience delivering software for industry with our partners, we've learned a lot. As wholly owned division of General Electric, GE Digital is one of the largest industrial software companies in the market with over $1B in annual revenues and year on year growth. GE Digital has deep experience as a software vendor in

non-GE sectors while also being an important catalyst for growth for General Electric.

We are investing in our talent and technologies for the future. With a focus on improving customer experience, embedding powerful analytics and cyber security, our teams and solutions help customers to better operate, analyse and optimise their activities at unparalleled speed and scale.

geo

geo
smarter energy

Founded in 2006, we are an award-winning internet of energy company based near Cambridge. We make a series of products from connected energy displays up to integrated home management systems that connect all of a household's utilities to give complete control and increasingly, make automated smart decisions that optimise usage efficiency. We're the leading supplier of in-home displays to the UK Smart Metering programme with over 6 million units deployed. Our aim is to create a sustainable future where every household is able to manage its overall consumption and carbon footprint, without even having to think about it.

🌐 www.geotogether.com

📍 Hardwick, Cambridge
United Kingdom
HQ

Main products

• Smart energy and heating products including in-home displays, smart heating controls, thermostats, and energy monitors.

• The Hybrid Home™ is our integration of smart energy and heating technology, comprising a series of capabilities that tie together to deliver an intelligent home.

Markets where the company is present (2019 data)

EU countries **15**

Number of employees (2019 data)

In Europe **85**

In total **85**

Highlights from the past year

We are working to connect a household's utilities enabling complete control; and increasingly, automated, smart decisions that optimise usage efficiency.

Working with industry partners, we are leading the Core4Grid project, a BEIS funded consortium that's enabling domestic demand-side-response through our Hybrid Home in 24 UK homes. It is proving market

viability and customer acceptance of our future flexible grid.

In early 2020, our vision of the Hybrid Home was a winner at the Home of Innovation Awards.

With the Hybrid Home in mind, the latest solution we've introduced to our portfolio is Trio + Heating, a combination of our market leading IHD, which is SMETS1 & 2 compliant with unique, energy aware smart

heating control functionality.

In the last 12 months we have committed to the UN Global Compact corporate responsibility initiative and its principles in the areas of human rights, labour, the environment and anti-corruption and have also been awarded for the second year running, the EcoVadis gold medal in recognition of our CSR rating.

Iskraemeco

Since the company's founding, Iskraemeco employees have been transforming their invaluable experience, innovation, and thorough understanding of customers' needs into comprehensive energy management solutions. Iskraemeco is a globally recognised brand with its solutions found in more than 80 countries worldwide. For more than seven decades, Iskraemeco has been delivering quality products, solutions and services that make efficient energy use a reality to energy companies worldwide. Digitalised solutions based on IoT, data lakes, and smart cities give utilities the necessary data to manage energy use, anticipate demand, and optimise costs. It also helps consumers act more sustainably, while significantly lowering their energy bills.

www.iskraemeco.com

Kranj
Slovenia
HQ

Main products

Electricity Meters (for Residential, Commercial, Industrial application, prepayment), Communication

Tools, Software Solutions (Head-end System, MDM), Support Services

Manufacturing/assembly plants in Europe (2019 data)

2

Markets where the company is present (2019 data)

EU countries **30**

Outside EU **+50**

Number of employees (2019 data)

Worldwide **1 500**

Highlights from the past year

Iskraemeco continues to work on numerous projects and is keeping its leading position in the metering industry on the European markets and in parallel strengthening its position outside Europe by expanding the business.

FDI Award - Iskraemeco was the recipient of the FDI Award which Republic of Slovenia awards in

recognition of the outstanding role of foreign direct investors.

Global Smart Meter Growth Excellence Leadership Award - based on its recent analysis of the global smart meter market, Frost & Sullivan recognised Iskraemeco with the Global Growth Excellence Leadership Award.

New brand identity is a reflection of successful transformation into a leading smart metering solution provider. The new Iskraemeco corporate image reflects who we are today and symbolises our growth ambitions and future role.

Itron

Itron enables utilities and cities to safely, securely and reliably deliver critical infrastructure services in more than 100 countries. Our portfolio of smart networks, software, services, meters and sensors helps our customers better manage electricity, gas and water resources for the people they serve.

With decades of industry expertise and continuous investments in innovation, we have developed the industry's most comprehensive, secure and proven portfolio of intelligent devices, smart, foundational networks, and software and services to deliver the right outcomes for utilities and cities as we continue our work to create a more resourceful world.

www.itron.com

Liberty Lake, WA
USA
HQ

Main products

- Metering and sensing devices
- Secure IIOT networks
- Actionable data analytics
- Outcome-based enterprise applications
- Smart city solutions
- Global delivery and managed services

Manufacturing/assembly plants in Europe (2019 data)

Centres of excellence in Germany, France and Hungary

Markets where the company is present (2019 data)

A strong presence in the Nordics, Western and Southern Europe.

Itron customers are located in more than 100 countries world-wide.

Number of employees (2019 data)

In Europe **2 700**

In total **7 800**

Highlights from the past year

Continuing to provide solutions that empower our customers' ability to harness the power of intelligent, connected devices through advanced networks and data analytics to improve the efficiency of cities and utilities.

Continuing to build on our IIOT leadership in the smart energy and smart city space through innovative solutions and enabling a large partner ecosystem to better serve customers.

Broader challenges such as the impacts of more frequent

natural disasters is changing the relationships between utilities, technologies and communities. Amid these challenges, we want to keep going building strong technology partnerships to improve safety, save money and expand services for communities.

Kamstrup

kamstrup

Kamstrup is a world-leading supplier of energy and water metering solutions. Our solutions support utilities and are also applied in properties with individual metering. For 70 years, we have delivered reliable, cost-effective ways to measure and manage energy and water consumption worldwide. By anticipating our customers' challenges, we enable them to run a better business and inspire smarter, more responsible solutions for the communities they serve. Our solutions include consumption meters, smart metering systems, hosting and services, analytics and smart grid applications. All products are produced with the highest certifications for environmental safety and quality in our automated production facilities in Denmark and the US.

🌐 www.kamstrup.com

📍 Skanderborg
HQ **Denmark**

Main products

- Consumption meters
- Meter communication infrastructure
- Meter data management systems

- Smart Grid applications
- Hosted solutions
- Operation and meter data analyses within water, heat, cooling and electricity

Manufacturing/assembly plants in Europe (2019 data)

2

Markets where the company is present (2019 data)

EU countries	**17**
Outside EU	**8**

Number of employees (2019 data)

In Europe	**1 500**
In total	**1 500**

Highlights from the past year

Kamstrup's water solution with acoustic leak detection, including the water meter flowIQ 2200, won the innovation award Aqua Pro Gaz in Switzerland.

Several projects were completed in 2019 including a partnership with Radius where one million remote-read electricity meters were installed in Copenhagen and parts

of Zeeland, becoming Northern Europe's largest roll-out of a smart metering solution.

Landis+Gyr

Landis+Gyr is the leading global provider of integrated energy management solutions for the utility sector. Offering one of the broadest portfolios, we deliver innovative and flexible solutions to help utilities solve their complex challenges in Smart Metering, Grid Edge Intelligence and Smart Infrastructure. With sales of USD 1.7 billion, Landis+Gyr employs approximately 5,700 people in over 30 countries across five continents, with the sole mission of helping the world manage energy better. More information is available at www.landisgyr.eu

🌐 www.landisgyr.eu

📍 Zug
Switzerland
HQ

Main products

- Integrated Energy Solutions
- Smart Meters (Electricity, Heat, Gas)
- Head End Systems
- Meter Data Management
- Grid Edge Solutions

- Communication Devices and Networks
- Managed Services
- Advanced Load Management
- Distributed Energy Management
- Training

Manufacturing/assembly plants in Europe (2019 data)

Corinth (GR), Montluçon (FR), Nuremberg (DE), Stockport (UK)

Markets where the company is present (2019 data)

EU countries **15**

Outside EU **13**

Number of employees (2019 data)

5 700 employees worldwide

Highlights from the past year

- Ongoing large-scale smart meter rollout in UK with more than 20 million Landis+Gyr meters deployed or under contract.

- Ongoing large smart meter rollout France as one of three suppliers to upgrade all 35 million residential meters with smart meters in France

- Major contract with E.ON to deliver Gridstream® Connect solution for one million metering points

- Frost & Sullivan recognises Landis+Gyr with the 2019 Global Company of the Year Award for addressing customers' current and evolving needs with its IoT platform Gridstream® Connect

- New Managed Services contracts outside of the Nordics and launch of new Services offering in Germany

LUNA Elektrik Elektronik San. Tic. A.Ş.

The corporate group including LUNA was founded in 1991, in the business of design and manufacturing of electronic circuits and products for controlling and measuring electrical energy. LUNA carries out its design and production of electricity meters, the development of software and hardware for the communication between the meters, in its own registered R&D Centre and warehouse in Izmir, TURKEY. Currently with 400.000 meters monthly production rate, it is the biggest supplier to the public and government metering needs in Turkey with its ready plug n play smart grid solutions as a complete system for electrical energy management as well as water metering solutions.

www.lunatr.com

Izmir
Turkey
HQ

Main products

- Electricity Meters for Residential, Commercial, Industrial Applications
- Smart Electricity Meters
- Water Meters

- Operation and meter data analyses within electricity and water
- Meter Data Management Systems
- Head End Systems

Manufacturing/assembly plants in Europe (2020 data)

Izmir, Turkey

Markets where the company is present (2020 data)

EU countries **19**

Outside EU **40**

Number of employees (2020 data)

600 employees worldwide

Highlights from the past year

- Luna Mobile Payment System is an application that allows people to download credits from their credit cards and via PayPal instantly on prepaid meters. Subscribers can upload credits to their meters by using this mobile application. Payments are delivered online to the meters.

- The projects about installation of pre-paid electricity meters, measuring energy simultaneously from both the generator and the mains separately, are being applied in many countries in the world.

- Panel type split meters are being widely used as an alternative for safe metering for anti-tamper solution that is mostly recommended for higher buildings in big cities. In 2020, the number of meters in the field is 800K and 200K is waiting to get installed.

- PLC and GSM Type Pre-paid systems are being implemented widely. By the end of 2020 800K units of meters will have been deployed.

- Another innovative project makes it possible for reading of the meters, managing valve orders, and monitoring the meter penalty warnings remotely through the management of smart water meters via electricity meters.

Meter&Control

METER&CONTROL
Solutions for smart energy management

Meter&Control manufactures state-of-the-art AMI devices and software for smart energy management in industrial and residential environments. Established in 2008, the entire research, development, production, testing and verification process takes place at our integrated facility in Belgrade.

Our broad range of products features integrated and modular smart electricity meters with PLC and GPRS/3G communication, communication and switching modules, data concentrators and gateways, as well as AMM/AMI software. Our products are compliant with the highest industry standards and certificates, including IDIS 1/2, MID-B, MID-D, G3-PLC and DLMS/COSEM.

Our solutions support utilities in their efficiency and sustainability goals and help them to keep the pace with fast transitions in the energy market.

🌐 www.meterandcontrol.com

📍 Belgrade
HQ **Serbia**

Main products

- Integrated and modular smart electricity meters
- Communication modules
- Disconnectors
- Data concentrators
- HES software
- Solutions for local reading and parameterization

Manufacturing/assembly plants in Europe (2019 data)

1

Markets where the company is present (2019 data)

EU countries: Slovakia

Outside EU: Switzerland, Serbia, Montenegro, Bosnia and Herzegovina, Colombia

Number of employees (2019 data)

In Europe **100**

Highlights from the past year

- Development of new Sx350 modular meter platform with wide range of communications options and customizable function inputs/outputs
- Development of prepaid electricity meter

Networked Energy Services Corporation (NES)

NES is a global smart energy leader in the worldwide transformation of the electricity grid into an energy control network, enabling utilities to offer services to help reduce operating costs, provide expanded services, conserve energy, and protect systems from cybersecurity. NES's technology is used in more than 40 million smart meters by utilities around the world. The company was formed as a result of the spinoff of Echelon Corporation's Grid Modernisation Division in October 2014. NES has its headquarters in the US, with design and R&D Centers located in Silicon Valley/California, North Dakota, Poland, and sales offices throughout the world.

🌐 www.networkedenergy.com

📍 San Jose, California
USA
HQ

Main products

Smart grid solutions including smart meters, smart grid devices, control nodes, communication devices and software, data collection software, network management, energy based analytics, and threat detection and response capabilities.

Manufacturing/assembly plants in Europe (2019 data)

Timisoara, Romania and Kwidzyn, Poland

Markets where the company is present (2019 data)

EU countries **+12**

Outside EU **+12**

Number of employees (2019 data)

In Europe **+40**

In total **+110**

Highlights from the past year

- Implemented multiple new smart metering projects and pilots in Europe as well as around the world.

- Promoted the new Generation of its metering platform with advanced functionality and enhanced security.

- Added several new smart grid applications to its Energy Applications platform focused on operational efficiencies, security and low voltage grid management extending grid asset life.

- NES meters, which have been certified by the G3-PLC Alliance and OSGP Alliance, have been designed to enable the extension of additional communication technologies including both PLC and RF.

- In addition, NES meters are able to provide various local wired and wireless communication interfaces to customer equipment including non-electric meters, in-home displays, and demand response equipment.

Netinium

NETINIUM®
The smart energy platform

The Netinium smart energy platform delivers exceptional cost savings to grid operators, energy retailers and third-party service providers that need to deploy, control, and operate multi-vendor, multi-utility smart metering and smart grid infrastructures.
This next generation head-end system offers high quality data collection, comprehensive device management, industry-strength security and extensive automation. It readily integrates with third party software like SAP, MDM's or data analytics applications using industry standard interfaces and enables our customers to optimize their IT-stack to process and fan-out massive amounts of data to various end-points. With the Netinium smart energy platform customers are able to address the smart grid evolution with less complexity, less integration and less operational costs than operating multiple head-end solutions.

www.netinium.com

Wormer
The Netherlands
HQ

Main products

The Netinium smart energy platform

Markets where the company is present (2019 data)

EU countries: Europa

Outside EU: Middle East, Africa

Number of employees (2019 data)

In Europe

25

In total

25

Highlights from the past year

Netinium has reached 4.7 million fully managed smart meters and is adding 3000 more each day, moving

towards a goal of 5.7 million by the end of 2020.

Sagemcom Energy & Telecom

SAGEMCOM

Sagemcom Energy & Telecom concentrates Sagemcom's expertise in telecom and metering, enabling the supply of customised connected systems to utilities, telecom operators and services operators worldwide. Thanks to the talents of its R&D and its industrial capacities, Sagemcom Energy & Telecom operates in smart meter, smart grid, smart sites, smart infra and smart services markets. The combination of these activities allows addressing increasing needs of verticals markets and allows Energy & Telecom Business Unit to propose efficient end-to-end turnkey solutions through its high value-added equipment and platforms making easily smart environments a reality.

🌐 www.sagemcom.com

📍 Rueil-Malmaison
HQ **France**

Main products

- Electricity, Gas and Water Smart Meters
- Communication modems
- Data Concentrators
- Head-End System

- Meter Data Management
- Energy Gateways
- Smart Grid sensors
- Energy Management Consumer devices and sensors

Manufacturing/assembly plants in Europe (2019 data)

Dinan (France), Rostock (Germany), Citta di Castello (Italy)

Markets where the company is present (2019 data)

EU countries **18**

Outside EU **17**

Number of employees (2019 data)

5 500 employees worldwide

Highlights from the past year

- Ellevio, an energy DSO in Sweden, has partnered with Sagemcom to deploy an end-to-end smart metering solution across the country. Ellevio customers will benefit from a new meter in the period 2020 to 2023. This partnership provides for the supply of more than one million smart meters, as well as the installation of a SICONIATM software system for at least 10 years.

- Sagemcom is part of the Austrian Smart metering rollout with two wins in Styria and Niederösterreich.

- ENEGRA renewed its confidence in Sagemcom for its stage 4 with 500 k meters.

- Sagemcom signed two new contracts which strengthen our Group's position on the smart gas metering market in Italy: Italgaz and HERA.

SAP

SAP is the leading provider of premise and cloud-based utilities solutions worldwide. SAP for Utilities solutions help improve operational efficiency, mitigate risk, and increase profitability, helping clients gain enterprise-wide visibility for better decision making and improved responsiveness in mission-critical areas. More than 4,600 utilities, in over 118 countries, in power generation, transmission, distribution, retail, gas, water, waste and recycling run SAP Utilities software focusing on improving energy efficiencies and sustainability.

www.sap.com

Walldorf
Germany
HQ

Main products

- Enterprise Asset Management
- Metering
- Customer Experience
- Bill to Cash
- SAP Cloud for Utilities
- Procurement and Networks
- Cloud and Data Platforms
- Internet of Things (IoT)
- Human Resources
- Finance
- Analytics

Manufacturing/assembly plants in Europe (2019 data)

SAP has locations of SAP offices in

130 countries

Markets where the company is present (2019 data)

SAP serves **+440 000** customers in **+180** countries and has locations of SAP offices in **130** countries.

Number of employees (2019 data)

100 330 employees worldwide

Highlights from the past year

- SAP positioned as leader in 2019 Gartner ''Magic Quadrant for Data Integration Tools''.

- SAP and Accenture co-developed new cloud-based solution to help utilities companies supercharge business processes and customer experiences.

- Peoples Natural Gas adopted SAP S/4HANA as the foundation for future transformation as part of essential utilities.

Sierra Wireless

Sierra Wireless is the leading IoT solutions provider that combines devices, network services and software to unlock value in the connected economy. Companies globally are adopting IoT to improve operational efficiency, create better customer experiences, and create new revenue streams. Whether it is an integrated solution to help a business securely connect equipment to the cloud, or a software/API service to help manage processes associated with billions of connected assets, or a platform to extract real-time data to make the best business decisions, Sierra Wireless will work with you to develop the right industry-specific solution for your next IoT endeavour.

www.sierrawireless.com

Richmond, BC
Canada
HQ

Main products

A comprehensive set of cellular IoT solutions from the edge to the cloud (modules, gateways, connectivity)

Manufacturing/assembly plants in Europe (2019 data)

...

Markets where the company is present (2019 data)

+130 countries

Number of employees (2019 data)

In Europe **220**

1 300 employees worldwide

Highlights from the past year

- Sierra Wireless has shipped to date 168M+ cellular modules from the 2G time and heading to the first 5G module.

- Owns 400+ patents in the wireless technology including LTE-M technology.

- Launched the first LPWA module in 2018 for smart meter projects in Japan and US.

- Introduced Ready-to-Connect modules with integrated SIM early 2020 to support more efficient connected metering and power storage solutions.

Sigma Telas

JSC "Sigma Telas", founded in 1992, is the Smart Metering and AMI/MDM Software developer and system integrator with extended expertise in large-scale projects. Our reference projects are 3 National Grid Operating Companies - Transmission System Operator LitGrid in Lithuania, National electricity operators BelEnergo in Belarus and KEGOC in Kazakhstan, large installations for electricity, gas and heat distribution companies, national railway companies, large industrial corporations, telecommunication companies and retail chain operators. Sigma Telas has over 700 implemented projects, with more than 100, 000 meters in bigger projects. EMCOS Corporate solution supports over 280 types of meters and data concentrators.

www.sigmatelas.eu

Vilnius
Lithuania
HQ

Main products

EMCOS Corporate HES/AMI/MDM software

Markets where the company is present (2019 data)

EU countries: Lithuania, Latvia, Estonia

Outside EU: Kazakhstan, Uzbekistan, Ukraine, Russia

Number of employees (2019 data)

In Europe

50

In total

50

Highlights from the past year

Since company foundation more than 700 projects have been implemented. A majority of them were large scale.

Among the projects completed by the company are large corporate systems. These are projects implemented in AB Lietuvos Geležinkeliai and Kazakhstan AO Kazakhstan Temir Žoly (Kazakhstan

Railways, where the system is installed in 12 distances), systems of mobile communication providers with hundreds and thousands of connected objects (in Belarus - Velcom mobile communication provider - up to 2500 objects, in Lithuania – Omnitel, now Telia, communication provider). The development of a unified system UzTelekom and UzMobail

(Uzbekistan) is underway. In Kazakhstan, the system is implemented in Kazakhmys Corporation - Kazakh copper (mines, steel plants, power plants, cities), oil industry companies, power plants, etc.

Thales

THALES

As a global leader in digital security, Thales bring trust to an increasingly connected world. We connect and secure billions of assets in sensitive sectors including banking or government. Our solutions have already been deployed in millions of smart meters and energy assets around the world. Our dedicated Smart Energy offer encompasses advanced connectivity and cybersecurity solutions to connect and protect massive smart metering deployments over time. We enable future-proof, seamless cellular connectivity which ensures real-time data transfer among connected assets. Our cybersecurity offer leverages leading-edge authentication and encryption technology to protect energy assets, and ensure integrity and confidentiality of the data they exchange.

www.thalesgroup.com

Meudon Cedex
France
HQ

Main products

Cellular connectivity modules (incl. LTE-M and NB IoT), eSIM and dedicated instant connectivity services, BSI-certified Secure Element, Trusted Key Manager (incl. ID provisioning and credential management solutions, data encryption solutions, award-winning HSM).

Manufacturing/assembly plants in Europe (2019 data)

24

Markets where the company is present (2019 data)

| EU countries | **27** |
| Outside EU | **+180** |

Number of employees (2019 data)

80 000 employees worldwide

Highlights from the past year

Thales is actively providing connectivity and end-to-end security solutions, as IoT enabler for smart metering deployments. It has been holding the chairman position of the ESMIG security group over the past few years.

Thales's smart energy offer goes above and beyond to connect and protect the complex, modern smart grid. At all layers of the ecosystem, we offer solutions to strengthen reliability, mitigate risk, and simplify deployments and lifecycle management.

We have been supporting smart meter manufacturers, DSOs and utilities for a quarter of a century, with solutions deployed globally.

u-blox AG

u-blox (SIX:UBXN) is a global technology leader in positioning and wireless communication in automotive, industrial, and consumer markets. Their smart and reliable solutions, services and products let people, vehicles, and machines determine their precise position and communicate wirelessly over cellular and short range networks. With a broad portfolio of chips, modules, and secure data services and connectivity, u-blox is uniquely positioned to empower its customers to develop innovative and reliable solutions for the Internet of Things, quickly and cost effectively. With headquarters in Thalwil, Switzerland, the company is globally present with offices in Europe, Asia, and the USA.

www.u-blox.com

Thalwil
Switzerland
HQ

Main products

We offer high quality, scalable, and secure cellular modules for the automotive, industrial, and consumer markets with demanding size, cost, and quality requirements. Supported cellular technologies provide global geographic coverage and include 2G, 3G, NB IoT, LTE-M, LTE Cat 1 and 4G LTE modules. Cellular product range: https://www.u-blox.com/en/cellular-modules

Manufacturing/assembly plants in Europe (2020 data)

1

Markets where the company is present (2020 data)

Worldwide **29**

16 sales offices and 13 R&D offices

Number of employees (2020 data)

In total **1 100**

Highlights from the past year

- u-blox acquires IoT Communications-as-a-service provider, Thingstream

- u-blox's global LPWA cellular modules gained security and positioning features

- u-blox expanded partnership with Kudelski Group to offer IoT security design and evaluation services

Vodafone

Vodafone Group is one of the world's leading technology communications providers, connecting people and organisations of all sizes to the digital society. We have extensive experience in connectivity, convergence and the Internet of Things, as well as championing mobile financial services and digital transformation in emerging markets.

🌐 www.vodafone.com

📍 Berkshire
United Kingdom
HQ

Main products

Vodafone Business has an extensive portfolio of deployments and a proven track-record in the delivery of smart energy solutions worldwide, working with both energy retailers and distribution companies and connecting around 19 million energy assets including millions of Smart Meters.

Vodafone Business is also an experienced supplier of critical utility services thanks to the resilience of their network supported by their end-to-end service management model. This means the Vodafone Business IoT solutions will provide a stable, robust, yet flexible platform for the delivery of Smart Metering and other energy data for generation, transmission distribution and retail operators.

Manufacturing/assembly plants in Europe (2019 data)

Vodafone Automotive – Italy (Varese)

Markets where the company is present (2019 data)

EU countries **11**

Outside EU **15**

Number of employees (2019 data)

In Europe **50 470**

In total **105 603**

Highlights from the past year

Vodafone Business has over 100m connections worldwide and is leading the way in low power, wide area network technologies as well as cutting-edge IoT connectivity and application solutions to the energy sector.

Vodafone now support iSIM a new technology which will make large IoT deployments possible at a much lower cost, enabling the scaling up of IoT projects and enabling services such as asset tracking for low cost parts and components.

Vodafone have a strategic partnership with Geotab to provide fleet management for vehicles which is combined with their vehicle security and recovery services. They have also introduced connected body cameras for lone workers.

Their low power NB-IoT networks are ideally suited to provide connectivity to a new class of energy devices that require low power or high in building or underground penetration.

NB-IoT is crucial to develop smart solutions for the energy and utilities sector and is available in all Vodafone markets. Vodafone Business also has roaming agreement in place for NB-IoT that guarantee international coverage for users.

Wirepas

WIREPAS
Things connected – Naturally

Wirepas is focused on providing the most reliable, optimised, scalable and easy to use device connectivity for its customers. Wirepas Connectivity is a de-centralised radio communications protocol that can be used in any device, with any radio chip and on any radio band. With Wirepas Connectivity there is no need for traditional repeaters because every wireless device is a smart router of the network. The connected devices form the network - easy as that. Wirepas has its headquarters in Tampere, Finland and offices in Australia, France, Germany, South Korea, the UK and the United States.

www.wirepas.com

Tampere
Finland
HQ

Main products

Wirepas Connectivity is a de-centralised radio communications protocol for large-scale IoT applications. What we offer is the protocol software that can be used in any device, with any radio chip and on any radio band.

Markets where the company is present (2019 data)

EU countries: Germany, Finland, France, the UK

Outside EU: USA, Australia and South-Korea

Number of employees (2019 data)

In Europe **30**

In total **36**

Highlights from the past year

Wirepas mesh is now used in the Sulzer condition monitoring solution. This mesh connects the Sulzer Sense sensors to each other. The connected sensors send the data to a gateway where the data is transferred to the cloud service.

Wirepas Mesh 5.0 was launched with new improvements and features that cater to different applications ranging from logistics to industry 4.0 and smart lightning.

ZIV

SMART GRID Solutions by [logo]

ZIV is a pioneer in the development and deployment of Smart Grid solutions. A technology partner with the knowledge, experience, and resources necessary to support your SM deployment:

• Market leader in several countries
• A mature company
• Full-stack ownership
• A broad perspective on communication technologies

Established in 1993, ZIV is a company, with knowledge in four key areas (protection, control, communications, and metering), offering complete solutions for the challenges of the current electrical system.

With a commitment to innovation, to an open & flexible approach, and to teamwork, ZIV has grown to become a leader in INTELLIGENT SOLUTIONS for HV, MV and LV Grids.

www.zivautomation.com

Zamudio, Bizkaia
Spain
HQ

Main products

• Electrical Smart Meters and Data Concentrator Units
• Communication and Automation Solutions
• Electrical Vehicle charging Solutions

Manufacturing/assembly plants in Europe (2019 data)

1

Markets where the company is present (2019 data)

EU countries	**7**
Outside EU	**11**

Number of employees (2019 data)

In Europe	**431**
In total	**339**

Highlights from the past year

• ZIV performs the FATS for Calama and Capricionio SA Systems in Chile
• Duna and Huambos Wind Parks in Peru to be equipped with ZIV SAS

• ZIV and Kenyan partner EZEETEC took part in a five day training course in Nairobi with KPLC team focused on the 3 Substation Automation Systems, the

configuration of the protection relays and on-site trouble-shooting
• ZIV supplies Enel Goias in Brazil with substation automation systems

Your contacts in the ESMIG Secretariat

For more information about us or our work, and for any requests for membership application, don't hesitate to contact us:

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