



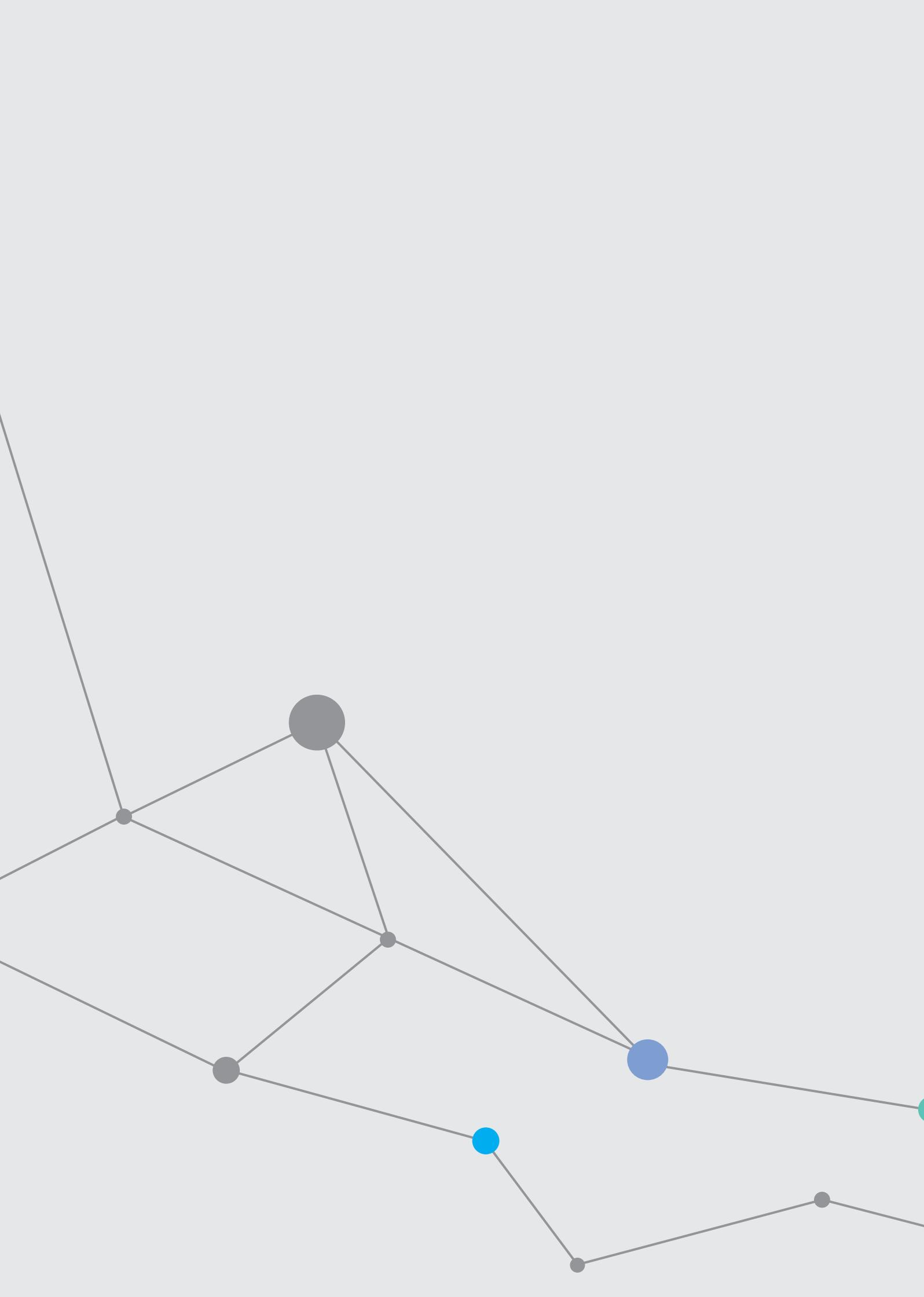
ANNUAL REPORT 2018





Creos Luxembourg S.A. Registered as a société anonyme (public limited company) under Luxembourg law with capital of EUR 198,851,260  
Luxembourg Trade and Companies Register B 4513  
Legal headquarters: 59-61 rue de Bouillon, L-1248 Luxembourg

Annual General Meeting of 14 May 2019  
Reports presented to the annual general meeting of shareholders by the Board of Directors and the independent auditors  
Reports and annual accounts for the 2018 financial year



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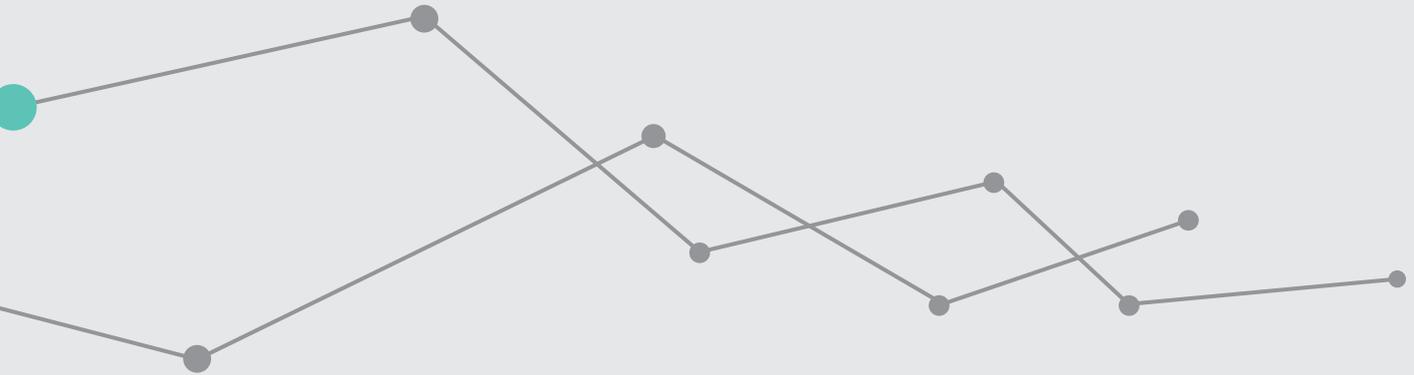
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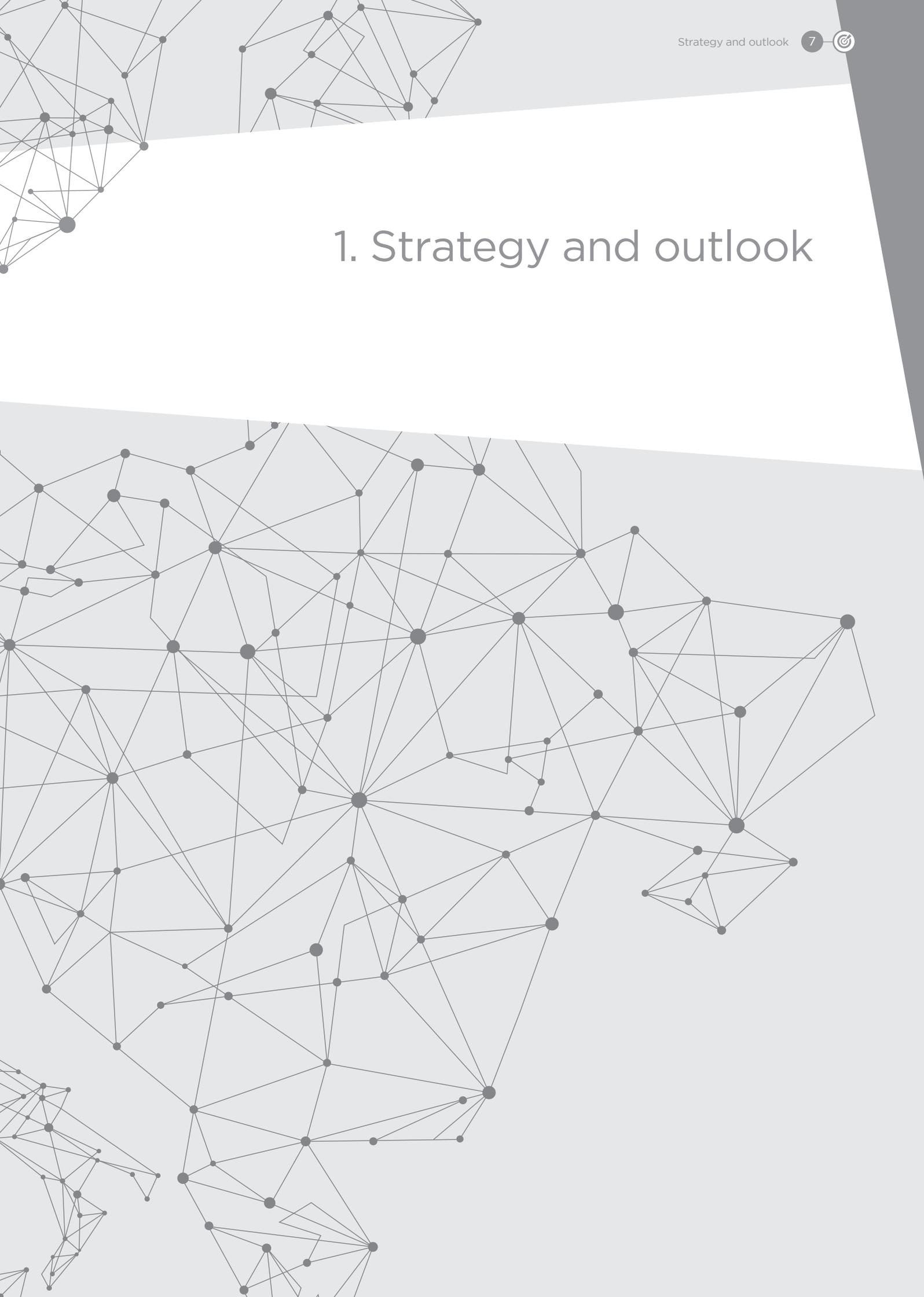
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# 1. Strategy and outlook



Interview with Mario Grotz, Chairman, and Marc Reiffers, CEO

# A new CEO, a new shareholder and new perspectives

**2018 WAS MARKED BY TWO MAJOR EVENTS: THE ENERGY COMPANY CHINA SOUTHERN POWER GRID TOOK A STAKE IN THE ENCEVO GROUP AT THE END OF JULY AND MARC REIFFERS WAS APPOINTED TO THE POSITION OF CEO IN SEPTEMBER, IN PLACE OF CLAUDE SEYWERT, WHO STEPPED DOWN TO TAKE OVER MANAGEMENT OF THE ENCEVO GROUP. CREOS HAS NOW NOT ONLY GAINED INTERNATIONAL STANDING THANKS TO ITS NEW SHAREHOLDER (THE SECOND LARGEST OPERATOR IN THE WORLD) BUT IS ALSO SEEKING TO ESTABLISH A MORE CUSTOMER-ORIENTED DIMENSION UNDER THE LEADERSHIP OF ITS NEW CEO.**

**Mr Reiffers, could you briefly outline your career path prior to joining Creos? How do you see your new role?**

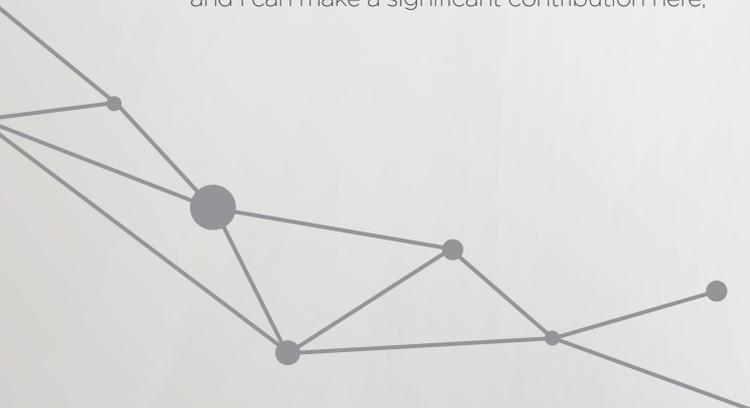
**Marc Reiffers:** I spent around 20 years in the Luxembourg steel industry where I held various functions, including technical, strategic and financial ones. In 2009, I joined the Enovos Group, which has since become Encevo. I've gained extensive knowledge of the energy industry by being Chief Operating Officer (COO), CEO of Enovos Luxembourg and a member of the group's Executive Committee.

As the new CEO of Creos, I obviously intend to continue the policy adopted by my predecessor, who I would like to congratulate at this point on everything he achieved, but I have also set myself two main goals. The first involves ensuring that the company becomes even more customer-oriented, and I can make a significant contribution here,

thanks to the ten years I spent at a commercial company. The second is to meet the many challenges that lie ahead as efficiently as possible and to implement our digital transition as quickly as possible.

**What exactly are the future challenges in the energy market?**

**M.R.:** Our main challenge is upgrading our lines to prepare the country for the strong demand for electricity in the years to come. Luxembourg's population is growing continuously. It passed through the 600,000 barrier in 2018 and is set to exceed one million by 2060 according to Statec, the national institute of statistics and economic studies. Many companies are setting up in Luxembourg, or planning to relocate here. This is particularly the case with Google which plans to open a large data centre in Bissen. At the same time, electro-mobility is gradually gaining ground with the entry into circulation of more and more electric vehicles.



A white network diagram consisting of several interconnected nodes and lines, positioned on the right side of the page.

***‘We don’t rule out working with start-ups which can help us to integrate artificial intelligence into the heart of our activities more quickly.’***

Mario Grotz, Chairman

The future decentralization of energy represents another major challenge. With the boom in energy communities and consumers generating their own power, production and distribution of energy will increasingly shift towards decentralised nodes. This new development will eventually result in a redefinition of our role. How are we going to manage this multitude of small production and distribution networks at the national level? Should we restrict ourselves to providing just a single point of access to these local energy communities, or alternatively provide each user in these communities with a connection to the national grid in the event of failure or incident?

All of the significant measures in the “Clean Energy for All Europeans” package adopted by a political agreement at EU-level in December 2018 will also have a major impact on all of our grids. The aim of these measures is to achieve carbon neutrality by 2050 thanks to the transition to renewable energies, an increase in electrification and a complete reorganization of the electricity market.

**Mario Grotz:** The issue we’re facing, like the majority of the grid operators in Europe, is a real headache. On one hand, we have to be ready to meet the growing demand, to adapt to the emergence of renewable energy communities and to meet the deadlines set by the European Union and our new government. On the other hand, we’re being held back in our efforts by excessive regulation and red tape. This aspect of our business definitely needs to be reviewed. We can move quickly, very quickly in fact, but that means simplifying current procedures. The politicians in charge must be made aware of this, both in Luxembourg and at the European level.

**From 1 January 2019, a new department has been set up at Creos, particularly involving the creation of a dedicated IT department. Why?**

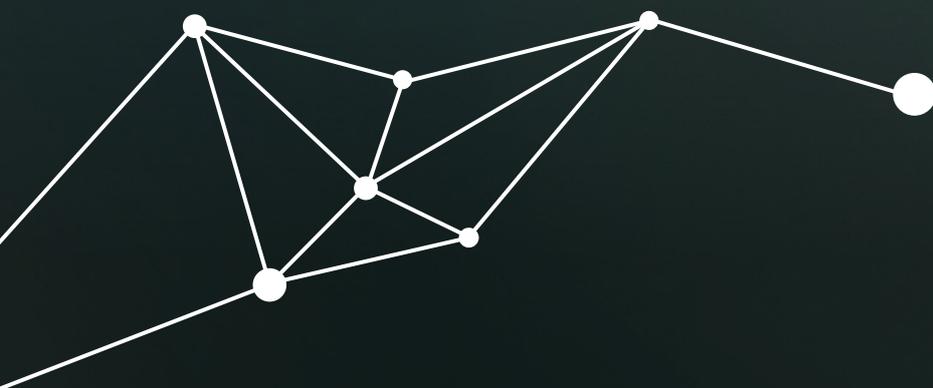
**M.R.:** For two main reasons. With a high-performance IT infrastructure of its own, Creos will be able to implement a tailored customer relations management (CRM) tool and improve its customer experience. In future, when a customer calls our contact centre the operator will be able to access

all of their information in a single click: their contract, bills, consumption history and the list of all their calls. We have several thousand customers, and it’s our duty to provide them with the best possible service.

We will also have a vast amount of data which will increase progressively with the deployment of smart meters in every home and with the increase in charging stations for electric cars. Thanks to our IT department, we will be able to guarantee the flow of consumption data to gas and power suppliers and to better distribute the electric vehicle load demand via a platform to which all the country’s public and private charging stations will be connected.

Having said that, just because we’re setting up an IT department doesn’t mean we’re going to launch large-scale, complex programmes, and automate everything. On the contrary, we will clearly identify priorities and will start with small-scale solutions which will be rolled out company-wide, if they prove satisfactory after a series of tests. We need to bear in mind that the main objective is to simplify procedures and, as far as possible, to improve data processing, boost productivity and make our employees’ tasks easier. We need (and always will) all of our employees who perform highly specific tasks in very specialised areas. People are still our top priority.

**M.G.:** And let’s not forget that our core activity is still managing power grids and gas networks, and not IT. That’s why we don’t rule out working with start-ups which can help us integrate artificial intelligence into the heart of our activities faster than if we did it ourselves. This more dynamic and open approach has led us to set up – in partnership with Powerdale S.A., a flexible organization that operates like a start-up and is able to implement innovative projects in the field of energy transition – including our own – successfully and within tight deadlines.





*‘Setting up a solid in-house IT infrastructure will allow Creos to improve customer experience and to process the mass of data available to us more effectively.’*

Marc Reiffers, CEO



**In summer 2018, Ardian sold its 24.92% stake in Encevo to the Chinese state company, China Southern Power Grid. What long-term effect will the arrival of this new shareholder have? What expertise can it contribute to the Encevo Group, and to Creos in particular?**

**M.G.:** Ardian provided us above all with solid expertise in financial engineering, risk management and the areas of audit, strategy and governance. China Southern Power Grid is an industrial shareholder which possesses vitally important expertise, particularly in the fields of energy storage, intelligent networks and ultra-high-voltage direct current (UHVDC) lines. Its know-how and contacts will be extremely useful in implementing our current projects more quickly and in providing fresh impetus to our corporate vision.

However, it's still too early to say exactly how we're going to collaborate with our new shareholder. Our two groups are vastly different in terms of geography, language, history, structure and their

respective sizes. Just to give some idea, Creos serves around 300,000 customers, whereas China Southern Power Grid has over 250 million, almost 900 times as many! It's the second largest operator in China and in the world.

**What will the EUR 800 million earmarked in the five-year investment plan be used for?**

**M.R.:** It will allow us to guarantee good performance on our power grid – Creos has one of the lowest average annual grid outage times in Europe – and to upgrade our lines to support the country's future growth. The second priority is the maintenance and partial expansion of the gas network. This investment plan also includes the construction of the new administrative building and operations centre in Luxembourg City, the new dispatching facility in Bettembourg and completing the installation of 800 charging stations, and the complete deployment of smart meters for gas and power. All of these projects are scheduled for completion by the end of 2020.



### The 2018 results were outstanding.

#### What factors explain this performance?

**M.G.:** Investment expenditure in 2018 increased to EUR 132 million, a new record level for Creos. It's important to remember that we are operating in a regulated market where we are remunerated for agreed investments.

Creos employees have worked extremely hard to make all these investments. You only have to look through the pages of our annual report, and particularly those on the work completed and the development of our power grids, to see that for yourself. Marc Reiffers and I wish to thank all of our employees for their efforts. They are our most valuable asset, and without them we would not have had such an outstanding year.

**M.R.:** What struck me when I became CEO of Creos was the incredible diversity of jobs within the company. The energy sector is demanding, constantly developing and increasingly complex. This growth in complexity will gather pace and will require a far-reaching adjustment on our part, to the point of a complete reorganization. But I have every confidence in the abilities of our workforce. Even in the few months that I've been CEO of Creos, I've come to appreciate their tremendous value and potential!



# Shareholder structure

## Shareholder structure of Creos Luxembourg S.A. as at 31.12.2018

Encevo S.A.	75.43%
City of Luxembourg	20.00%
State of the Grand Duchy of Luxembourg	2.28%
Fédération des Installateurs en Equipements Sanitaires et Climatiques (Federation of Sanitary and Air-Conditioning Equipment Fitters)	0.10%
42 Luxembourg municipal authorities	2.13%
Creos Luxembourg S.A. (own shares)	0.05%
<b>Total</b>	<b>100.00%</b>

# Key figures

(under Lux GAAP)		2018	2017
Net turnover	(MEUR)	<b>263.7</b>	243.7
EBITDA	(MEUR)	<b>128.9</b>	122.3
EBIT (including income from participating interests)	(MEUR)	<b>41.9</b>	46.7
Profit for the financial year	(MEUR)	<b>36.2</b>	40.9
Investment	(MEUR)	<b>132.3</b>	118.3
Workforce	(number)	<b>712</b>	704
<b>Electricity</b>			
Electricity flow	(GWh)	<b>5,121.9</b>	5,132.5
Electricity network peak	(MW)	<b>827.6</b>	828.8
Network length	(km)	<b>9,925.6</b>	9,783.0
Electric meters	LV-SLP (number) MV-RLP (number)	<b>270,789</b> <b>10,681</b>	265,979 10,385
Chargy charging stations	(number)	<b>245</b>	100
<b>Natural gas</b>			
Gas network capacity	(Nm <sup>3</sup> /h)	<b>319,000</b>	319,000
Gas network peak	(Nm <sup>3</sup> /h)	<b>220,028</b>	205,988
Volume transported	(GWh)	<b>8,834</b>	8,957
Network length	(km)	<b>2,109.6</b>	2,090.3
Natural gas meters	(number)	<b>47,056</b>	46,389

The financial year corresponds to the calendar year.

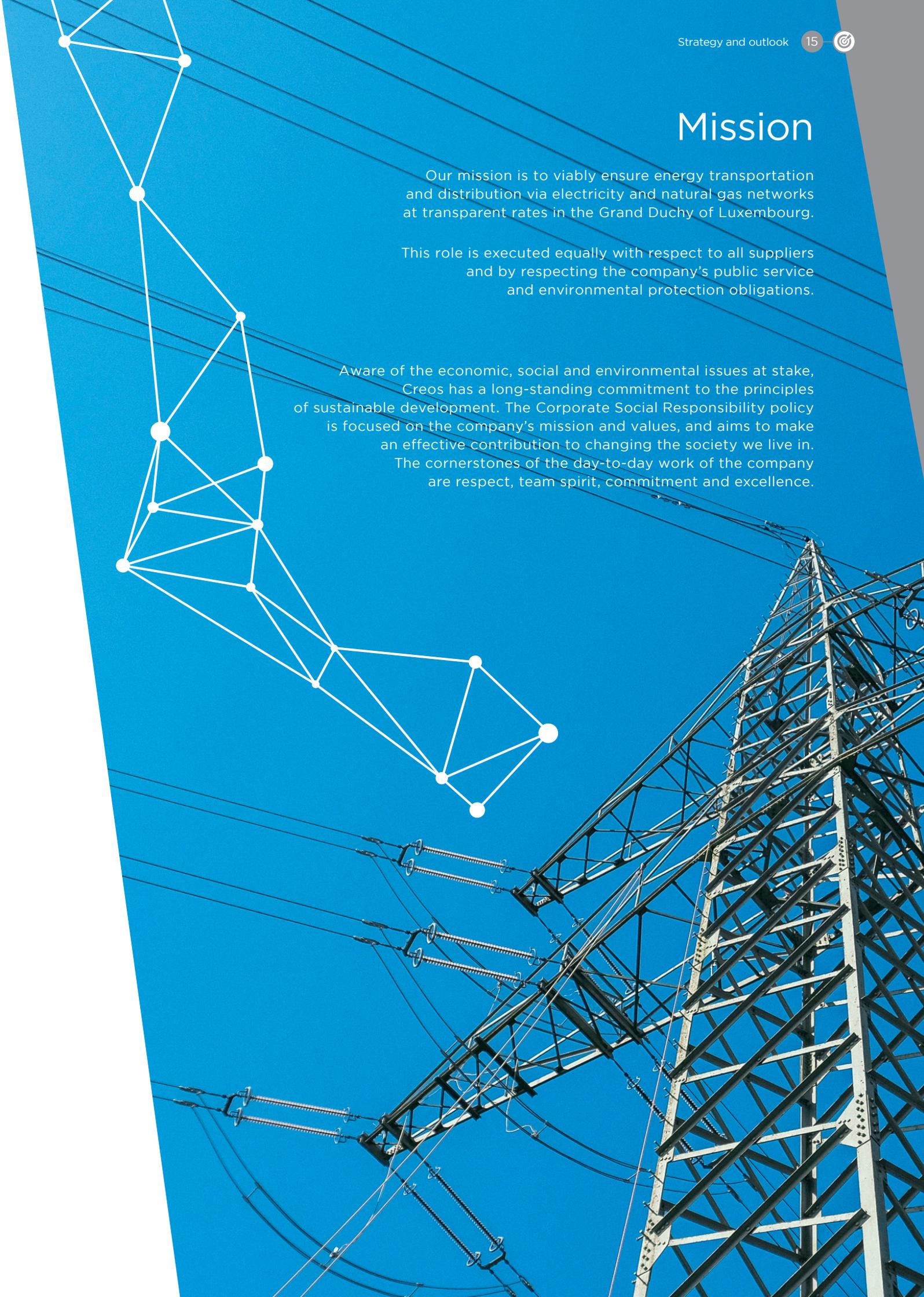


# Mission

Our mission is to viably ensure energy transportation and distribution via electricity and natural gas networks at transparent rates in the Grand Duchy of Luxembourg.

This role is executed equally with respect to all suppliers and by respecting the company's public service and environmental protection obligations.

Aware of the economic, social and environmental issues at stake, Creos has a long-standing commitment to the principles of sustainable development. The Corporate Social Responsibility policy is focused on the company's mission and values, and aims to make an effective contribution to changing the society we live in. The cornerstones of the day-to-day work of the company are respect, team spirit, commitment and excellence.



# Corporate governance

## Board of Directors of Creos Luxembourg S.A. as at 31.12.2018

### Chairman and Managing Director

Mario Grotz

### Vice-Chairman of the Board

Li Sun<sup>1</sup>

### Members of the Board<sup>2</sup>

Gaston Bohnenberger<sup>3</sup>

Paul Poon<sup>5</sup>

Christiane Schaul

Marco Valentiny

Doris Engel<sup>4</sup>

Claude Reder

Jean Schiltz

Gilbert Zahles

Lex Kaufhold

Patrick Reder

Jingqiang Sun<sup>7</sup>

Pierre Kremer

Marc Reiffers<sup>6</sup>

Anne Van Goethem

Thierry Kuffer

Patricia Rix

Laurent Vanetti

### Government Commissioner for Energy

Tom Eischen

1. Mrs Li Sun was co-opted as a director and appointed to the position of vice-chairman on 10 December 2018, replacing Mr Benoît Gaillochet, who stepped down. Her co-option will be subject to ratification by the next ordinary general meeting of shareholders.
2. Mrs Sasha Baillie resigned from her position as director with effect from 28 May 2018. Mrs Paulette Lenert resigned from her position as director with effect from 5 December 2018. These positions remained vacant until 31 December 2018.
3. Mr Gaston Bohnenberger was co-opted as director on 29 March 2018, replacing Mr Eric Bosman, who stepped down. His co-option was ratified by the ordinary general meeting of shareholders on 8 May 2018.
4. Mrs Doris Engel was co-opted as a director on 21 June 2018, replacing Mr Michel Birel, who stepped down. Her co-option will be subject to ratification by the next ordinary general meeting of shareholders.
5. Mr Paul Poon was co-opted as a director on 10 December 2018, replacing Mr Michael Reuther – the permanent representative of the director AXA Redilion ManagementCo S.C.A. – who stepped down. His co-option will be subject to ratification by the next ordinary general meeting of shareholders.
6. Mr Marc Reiffers was co-opted as a director with effect from 15 September 2018, replacing Mr Claude Seywert, who stepped down. His co-option will be subject to ratification by the next ordinary general meeting of shareholders.
7. Mr Jingqiang Sun was co-opted as a director on 10 December 2018, replacing Mr Georges Biver, who stepped down. His co-option will be subject to ratification by the next ordinary general meeting of shareholders.

## Management of Creos Luxembourg S.A.



**Marc Reiffers**  
is the Managing Director  
and CEO of  
Creos Luxembourg S.A..



**Carlo Bartocci**  
is in charge of the *Grid Operations* department,  
i.e. the Gas and  
Electricity dispatchings,  
the SCADA/Comin  
service, the Power MV  
(NOC), the Grid Data  
Management and  
the Smart Grids unit.



**Daniel Christnach**  
heads the  
*Customer Service*  
department including  
Customer Care,  
Contracts and Non-  
Regulated Activities.



**Robert Graglia**  
is responsible for the  
*Grid Support*  
department, which  
heads the Metering and  
Reading service and  
the Back Office.



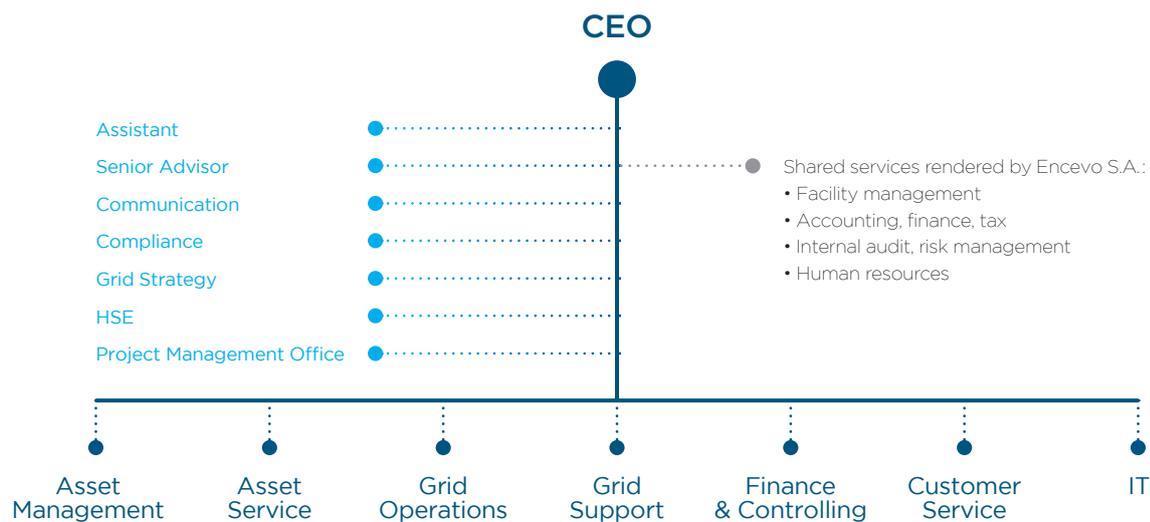
**Eric Mauer**  
is responsible for  
*Finance & Controlling*  
as well as the Legal  
and Purchasing units.

## Compliance Programme Officer

In accordance with the amended laws of 1 August 2007 on the organization of the electricity (Art. 32(2)d)) and natural gas markets (Art. 37(2) d)), any grid operator which is part of a vertically integrated structure must establish a compliance programme including measures to guarantee that any discriminatory conduct with regard to actors in the markets in question (producers, suppliers, network clients and users, etc.) is excluded. As such, a compliance programme has been developed and has been published on the Creos Luxembourg S.A. website.

A person has been appointed in this respect to take responsibility for monitoring the implementation of the compliance programme, known as the "Compliance Programme Officer", or more simply "Compliance Officer" (currently Ms Bernadette Coolens). The officer makes a report each year which is submitted to the "Institut Luxembourgeois de Régulation". The report is subsequently published by Creos Luxembourg S.A. on its website.

## Organization chart as of 1 January 2019



**Marc Meyer** heads the *Asset Service* department and is also responsible for the Operation Centres and the Documentation, Project Management, Connections and Fleet Operations.



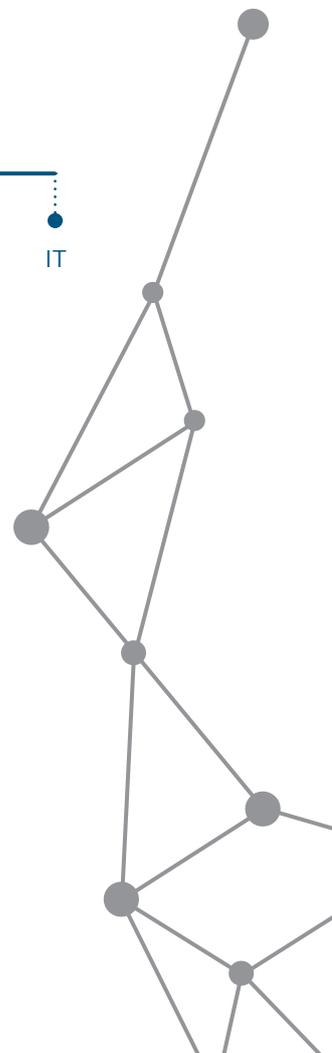
**Alex Michels** manages the *Asset Management* department including Regulation Management, Expert Group Gas, Expert Group Power, Asset Management Services and Special Projects.



**Jean-Marc Verdure** is CIO and responsible for information systems.



**Jean-Paul Wagner** is secretary of the Board of Directors and advises the CEO on strategic issues



# Highlights 2018



## CREOS HELLËFT HAÏTI

A team of three Creos electricians spent more than three weeks in Haiti in February. As well as carrying out maintenance work on a turbine, they also trained Haitian electricians and visited various local partners. Creos has supported the non-profit organisation "Objectif Tiers Monde" since 2010.

## BOVÉ SITE

The installation of the first cranes on the building site of Creos's future headquarters in Luxembourg City marked the start of the work-at-heights. The site will accommodate over 400 staff from autumn 2020.



## CHARGY - OBJECTIVE ACHIEVED

With the installation of the first sets of charging stations at the Park & Ride and major public car parks, such as the "champ du Glacis" in Luxembourg City, Chargy has installed 245 charging stations by the end of 2018.



## CHINA SOUTHERN POWER GRID TAKES A STAKE IN ENCEVO

Encevo welcomes China Southern Power Grid (CSG) as a shareholder. The Chinese company, which took a 24.92% stake in the Encevo Group, is the second largest network operator in China and in the world. CSG has over 300,000 employees and supplies electricity to a region with 252 million inhabitants.



## MARC REIFFERS, THE NEW CEO OF CREOS

Marc Reiffers took over the reins at Creos on 15 September. A mechanical engineering graduate, he also holds a master's degree in offshore engineering and an MBA. Marc Reiffers joined the Encevo Group in 2009 after spending over 23 years at ArcelorMittal. He also remains a member of the executive committee of Encevo S.A..

## ENERGY FORUM FOR INSTALLERS

Over 100 people took part in the third Energy Forum for Installers organized by Creos with the support of FIESC, the Federation of Sanitary and Air-Conditioning Equipment Fitters. Various presentations were held, naturally all focusing on the main topic of natural gas.





## COMMISSIONING OF A NEW HIGH-PRESSURE GAS STATION IN EHLERANGE

In view of the decommissioning of the Twinerg plant, Creos built a new pressure-reducing station in Ehlerange to secure the natural gas supply of a co-generation plant operated by the company Sudcal and the steel plant in Esch/Belval.



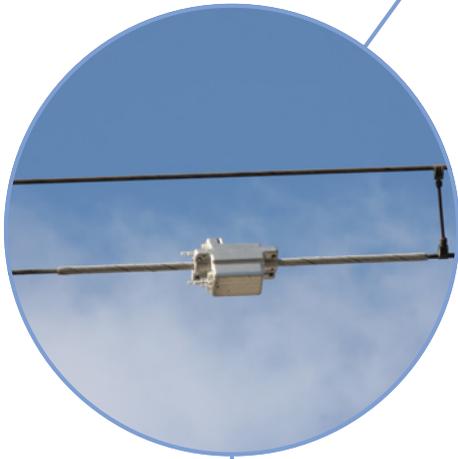
## NEW VERSION OF THE CREOS APP

The Creos app for smartphones has been revamped and now offers the option of receiving push notifications in the event of a power failure in a municipality. The app is available free of charge from the App Store and Google Play.

## CONSTRUCTION OF A NEW DISPATCHING FACILITY

The end of the summer holiday period marked the start of work on the new dispatching facility in Bettembourg. Located directly adjacent to LuxConnect, the new building will use the data centre's secure networks (Tier IV) as well as its heating, cooling and energy supply networks.





## SMART GRID – NEW DLR SENSORS INSTALLED

In order to determine the real-time capacity of its high-voltage transport lines and to optimize its grid, Creos – in collaboration with Ampacimon – has installed 24 new autonomous dynamic line rating (DLR) sensors on the 220 kV Flebour-Bauler, Roost-Bauler and Roost-Flebour lines as well as on the 65 kV Flebour-Marnach line.

## AVAILABILITY OF NATURAL GAS VIA GEOPORTAIL

The Geoportail website – the official national platform for geographical data and information set up by the Land Registry and Topography Department – now provides a new data layer indicating whether a plot of land can be easily connected to the gas network.





NEXXTLAB report

# A single goal – to make the third industrial revolution a reality



From left to right:  
Alex Michels, Christoph Emde,  
Sébastien Thill, Olivier Piroux

PREPARING THE COUNTRY FOR THE THIRD INDUSTRIAL REVOLUTION IS ONE OF CREOS'S TOP PRIORITIES. THIS CONVERGENCE OF IT, RENEWABLE ENERGY AND MODES OF TRANSPORT WILL HAVE AN IMPACT ON HOW THE POWER GRIDS ARE MANAGED. TO PREPARE FOR THIS DEVELOPMENT, THE GRID OPERATOR HAS ADOPTED A DIFFERENT, MORE DYNAMIC APPROACH AND HAS JOINED FORCES WITH POWERDALE S.A. TO CREATE NEXXTLAB. HAVING STARTED OPERATIONS IN FEBRUARY 2018, THIS NEW ENTITY AIMS TO DEVELOP INNOVATIVE SOLUTIONS IN THE FIELD OF ENERGY MANAGEMENT IN COORDINATION WITH THE WIDESPREAD INTRODUCTION OF ELECTRO-MOBILITY.

Powerdale has been chosen as the partner for the set-up of NEXXTLAB for good reason. This company, based in Belgium, develops hardware and software solutions for electro-mobility and energy management. It is the main supplier in the Chargy project, the public network of charging stations for electric vehicles in Luxembourg. *'After the launch of this project, we soon asked ourselves if we could go a step further and adopt a more*

*efficient approach to speed up the energy transition that our government is targeting,'* comments Alex Michels, Chairman of NEXXTLAB and Head of Asset Management at Creos. *'We organized reflection workshops with the management at Powerdale. These resulted in the creation of NEXXTLAB, a flexible structure, halfway between a think-tank and start-up, capable of managing innovative projects within tight deadlines for grid operators.'*

## Electro-mobility – the key to successful energy transition

*'We strongly believe that the integration of renewable energy and green mobility is the key to successful energy transition,'* adds Olivier Piraux, CEO of NEXXTLAB. *'Based on this premise, we aim to develop – in coordination with the grids – projects that not only provide technological solutions and new business models but also – and not least – that facilitate human acceptance. Energy management is not necessarily a top priority for most people. This means they need to be offered mechanisms which encourage them to adopt a more responsible approach to their own energy production and consumption in a coordinated way and in solidarity.'*

Even though research and development are an integral part of its activities, NEXXTLAB's main aim is to implement projects and provide products and services that can be rapidly deployed by its customers. *'Our organization is a real, independent company,'* explains Alex Michels. *'This means that Creos, which holds a 50% stake, and NEXXTLAB have a customer-supplier relationship. Creos places orders for projects with NEXXTLAB which, in return, provides it with specific solutions.'*

***'Creos and NEXXTLAB have a customer-supplier relationship!'***

Alex Michels, Chairman of NEXXTLAB and Head of Asset Management at Creos





***‘We have an open structure and focus on collaboration with research centres, universities and partner companies.’***

Olivier Piraux, CEO of NEXXTLAB

*‘Creos is not our only customer,’ adds Olivier Piraux. ‘We are self-financing and also work with companies in both the public and private sectors. In this respect, efficiency and speed are key factors in attracting new customers. Rather than reinventing existing technologies, we prefer to integrate and*

*improve them in the solutions we offer to our customers. We have an open structure and focus on collaboration with research centres, universities and partner companies. This is also one of the reasons why we are based here in this competence centre in Belval.’*

## Four projects which are different but in line with the corporate strategy

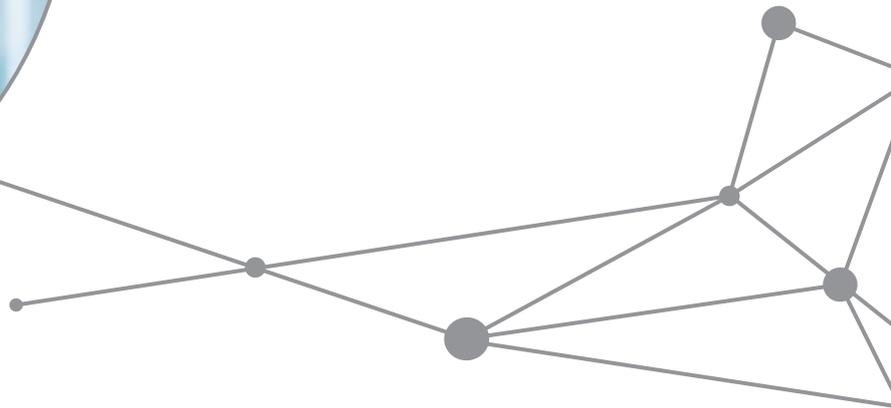
Of the many NEXXTLAB projects in progress, the focus is on four in particular. The first is called the **Simulation Matrix**. This control tool will allow grid operators to simulate various grid configurations based on real data in relation to different scenarios concerning the penetration of electro-mobility and renewable energy. The operators can also visualize the effects on their grids not just of different penetration rates – low, high and unbalanced – but also the mechanisms they have put in place to regulate them. In other words, if electro-mobility and renewable energy are launched on a large scale in years to come, the grid operators will know which methods to use to deal with the situation effectively.

The second project is called **Feeder Flex**. This aims to make better use of available grid capacity by deploying artificial intelligence. *‘Imagine the following situation,’* explains Sébastien Thill, an application software engineer. *‘A company wants to set up in a particular location and requires a certain level of power to start its operations. The grid operator does not have enough capacity to guarantee the power required at all times. Rather than installing a more powerful cable that will meet demand, the solution involves using a machine learning system which – based on consumption data in the area analysed – will try to distribute the available energy better based on the requirements*



## ***‘AI systems will allow operators to better manage the available grid capacity.’***

Sébastien Thill,  
Application software engineer  
at NEXXTLAB



*of the company concerned. Not everybody consumes the available power capacity 24/7. The energy requirements of a bank are much lower outside office hours than during the day. The energy capacity not used by the bank may be very useful for a person in the same distribution zone wishing to recharge their electric car overnight. The advantage of our system is that it will improve as it encounters various situations and will provide increasingly relevant solutions.’*

The **Smarty Dongle** is an open product that aims to facilitate access to online measurement of power consumption. *‘Thanks to the use of smart meters in Luxembourg (Smarty project), all users have a secure communication port which, by adding this little module, will enable the consumption data of the connected installation to be read directly,’* explains Sébastien Thill. *‘Its data can be easily downloaded and read by any type of mobile phone or tablet. This will allow customers to manage their consumption directly. The product is currently a prototype but many private operators have already shown an interest in this dynamic solution which contributes added value to the national Smarty project by facilitating interaction with users.’*

The **3D Flex** project is the ultimate smart grid model. It aims to encourage people to participate fully in balancing the grid and in energy distribution itself. *‘We believe the major challenge of the energy transition will be economic rather than technological,’* comments Christoph Emde, Business & Project Manager. *‘I’ll use an example to illustrate my proposal. If someone has solar panels and invests in batteries to store this energy, they will probably only use it for their own ends – remaining independent without concerning themselves with what is going on beyond that. And why would they act differently? There is currently no other way of making their investment profitable. This is exactly what the grid operators need to implement, with an economic model that will encourage people – through financial incentives – to invest on a small or large scale in batteries or other means of decentralized and plannable production, and to make their energy available to the grid in the right place and at the right time. This new business model means that all parties concerned benefit. The operator will be obliged to carry out major work on its network less often to meet demand for an increase in consumption or energy production. The customer making the request will be satisfied’*



*by this collaborative approach. The investment by the consumer-producer, who has actively contributed to grid supply, will pay off more quickly. Our ultimate aim is to make people understand that using energy they have generated themselves or stored in stationary batteries, even in their electric*

*cars, just to meet their own requirements is no longer the most profitable option. The best way to optimize their investment is by making some of their energy available to the grid in a coordinated and managed way.'*

## 2019 – a year of achievements

With innovative projects and a team that is growing every month, NEXXTLAB has performed extremely well since starting operations less than a year ago. 'We thought a lot at the outset,' acknowledges Alex Michels. 'We knew where we wanted to go but still did not know which paths to pursue to get there at the time. This period of reflection is now over. Today, we have orders for strategic projects that will last for several years.'

'Our aim is not to become the biggest player on the market but the most attractive,' adds Olivier Piroux. 'We want to remain a flexible and open organization. We now have to establish a reputation and credibility. We will do so by implementing the various projects assigned to us within the deadlines set. In this respect, 2019 will be a pivotal year.'

***'Future-oriented intelligent networks will enable everyone to contribute to the energy transition.'***

Christoph Emde,  
Business & Project Manager at NEXXTLAB



# Constant growth and increasing diversity

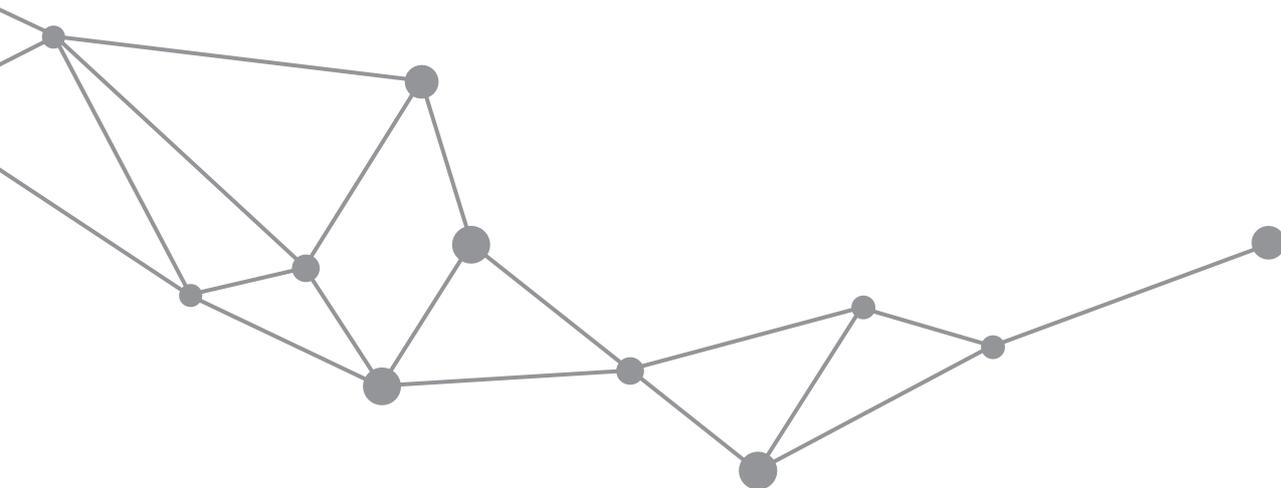
**THE GROWTH OF THE GROUP AND THE EMERGENCE OF NEW TECHNOLOGIES HAVE LED TO SIGNIFICANT DIVERSIFICATION OF JOBS AND PROFILES WITHIN CREOS. IN 2018, THE COMPANY RECRUITED 45 NEW EMPLOYEES.**

As the traditional area of employment at Creos, most of the company's workforce continue to work in the field of electricity: 60% compared to 18% of the staff working for the gas section.

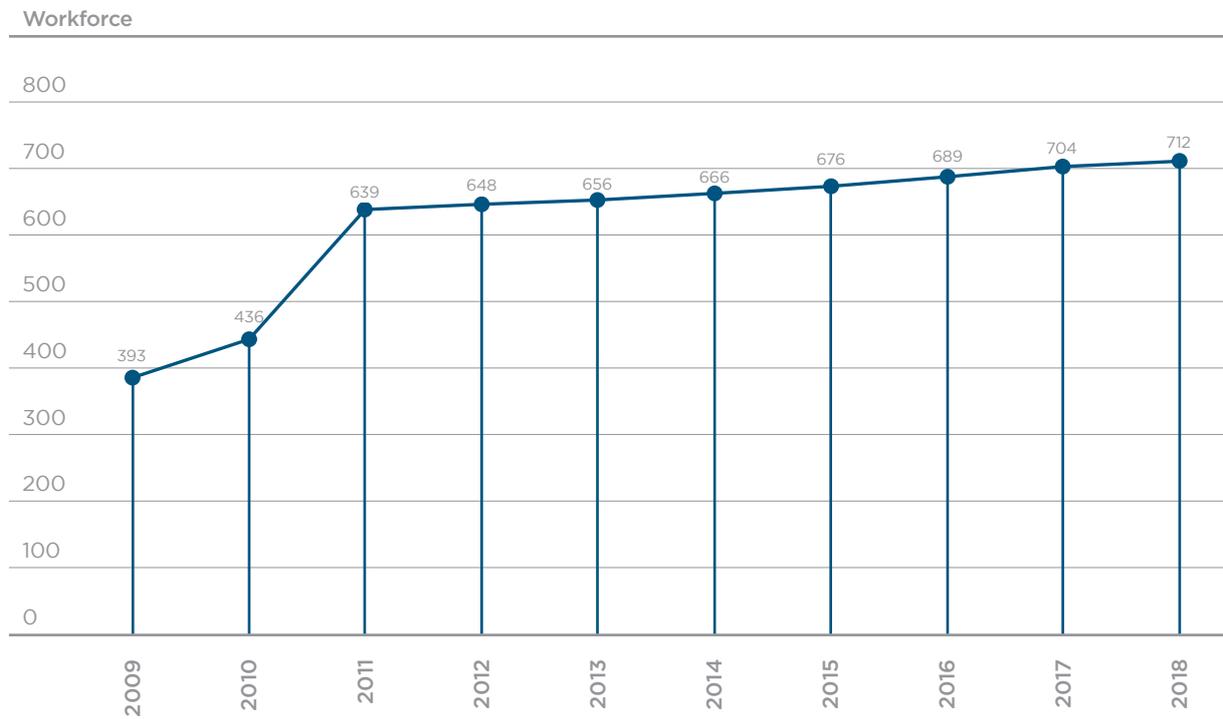
Creos ever since stands out because of the way in which it encourages diversity – whether in terms of nationality, gender or age – and 2018 was no exception. While the vast majority of the workforce is made up of employees from Luxembourg, 10 different nationalities work within Creos on a daily basis. In terms of gender distribution, Creos remains an essentially male company like the sector overall. Despite the annual increase in the percentage of female employees, they still only make up 8% of the total workforce compared to 92% of male employees.

The average age of 40 remains relatively stable, which is explained by two factors. Firstly, Creos is committed to recruiting and training young graduates every year. Over 23% of the company's workforce as at the end of 2018 were under 30 and of the 45 employees recruited, 11 were young graduates. The company also has a very low staff turnover rate – 1.97% in 2018 – with an average length of service of 14 year.

In terms of training, plans are set out each year to ensure that all Creos employees acquire and/or develop the technical skills required to perform their duties. In 2018, 99% of Creos employees have completed at least one internal or external training. This represents 2,460 hours spread over 220 sessions.

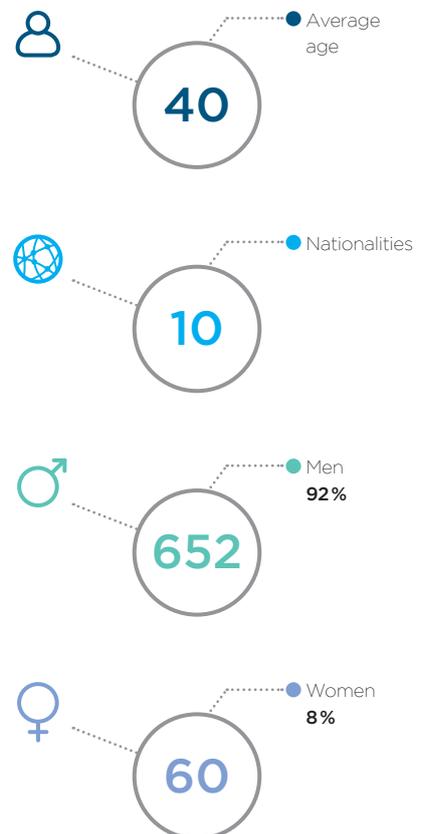
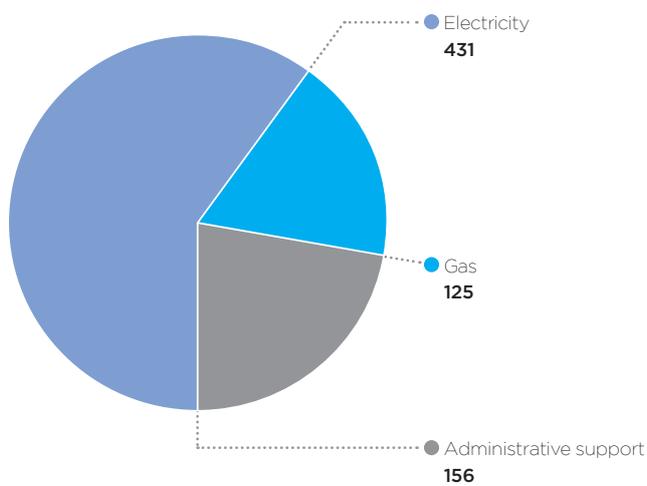


## Evolution of the workforce



As from 2013 including parental and maternity leaves.

## Workforce by type of activity



Health and safety

# Well-trained employees are our capital

**THE MISSION OF THE CREOS HSE (HEALTH, SAFETY AND ENVIRONMENT) DEPARTMENT IS TO GUARANTEE SAFETY AND HEALTH AT WORK, NOTABLY THROUGH RISK PREVENTION. COMPLYING WITH AND APPLYING STANDARDS AND DIRECTIVES SERVE TO PROTECT CITIZENS AND THE ENVIRONMENT, BUT ABOVE ALL OUR PRINCIPAL RESOURCE: OUR EMPLOYEES.**

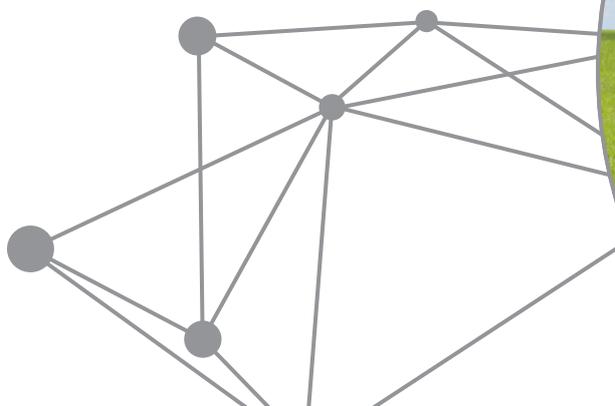
Economic success never outweighs health and safety or environmental protection. No arguments, however important or pressing, justify neglecting these HSE principles.

## Raising health and safety awareness

The occupation as gas fitter and electrician entails certain risks. To raise employee awareness of potential risks and prevent workplace accidents, the Creos HSE department routinely organizes safety conferences and training courses.

The company strives to optimize its working procedures, and readily employs the latest safety technologies to reduce accidents at work.

Two safety conferences are held during the year for personnel in "high-risk jobs". The table on the upper following page shows basic training courses organized in 2018 and the number of certificates issued.





## Basic training courses\*

Domain	Designation	Number
First aid	First aid attendant	45
Tools	Chain saw	3
Gas grid	Gas expert (Sachkundiger)	5
Electricity grid	Electrical certification (Schaltberechtigung)	30
	LV live work	15
	Working at heights	24
Safe machinery operation	Crane driver, truck-mounted crane	34
	Telescopic forklift	6
<b>Total certificates issued</b>		<b>162</b>

\* "Refresher" courses are not included.

## Work-related accident severity rate in 2018

In 2018, Creos recorded a total of 41 accidents of which 24 were minor and 17 involved more than 3 days of incapacity. The main causes were accidents travelling to and from work, falls, and slips and trips.

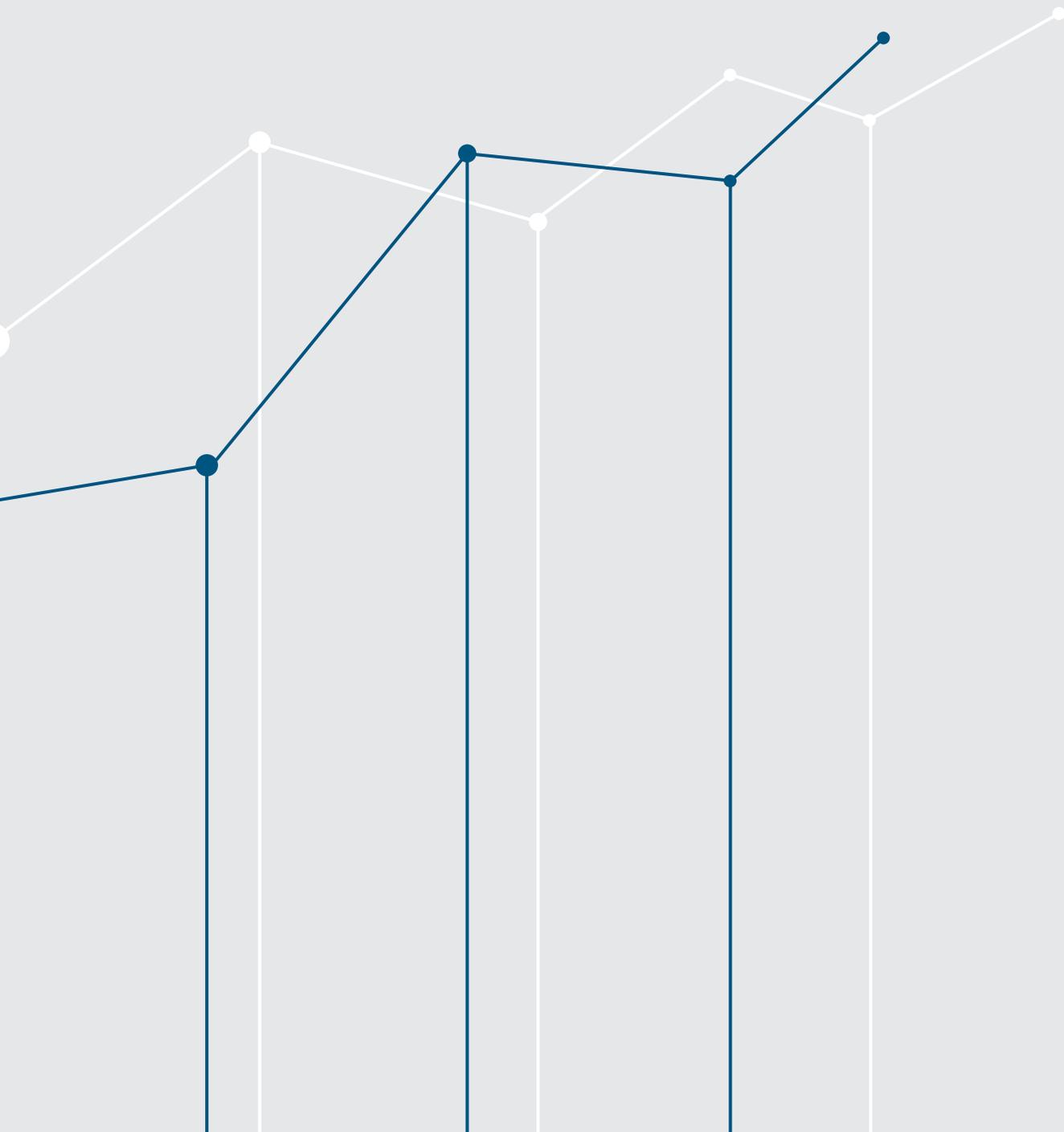
The rate of frequency has diminished to 5.88 (2017: 6.55) whereas the rate of serious accidents at Creos rose to 0.41 in 2018 (2017: 0.29). The definition of this rate is the ratio of lost calendar days to the total productive (working) hours multiplied by 1,000.

## Number of accidents





## 2. Activity



# Operation Centres

Creos has four regional Centres which deal with construction, operation, maintenance and repair of electricity and natural gas networks. Their locations ensure flexibility and a rapid reaction nationwide, 24/7.

## ROOST

The Roost Centre is in charge of the electricity and natural gas networks in the central and northern regions of the Grand Duchy. It covers the high-, medium- and low-voltage electricity services and the medium- and low-pressure natural gas services. The central warehouse and mechanical and electrical workshops are also housed in this ultra-modern complex.

## LUXEMBOURG CITY

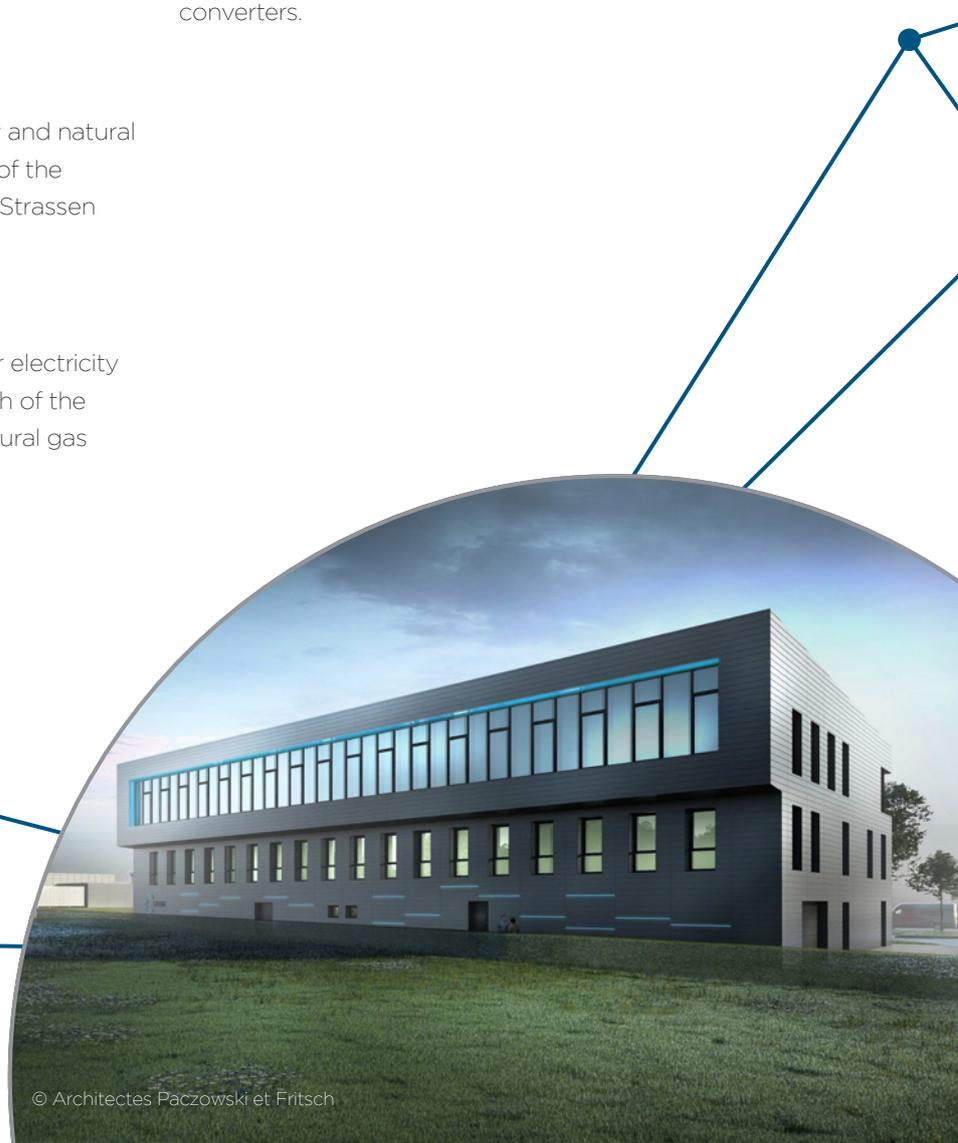
The Luxembourg City Centre (electricity and natural gas) covers the highly populated areas of the capital and the nearby municipalities of Strassen and Hesperange.

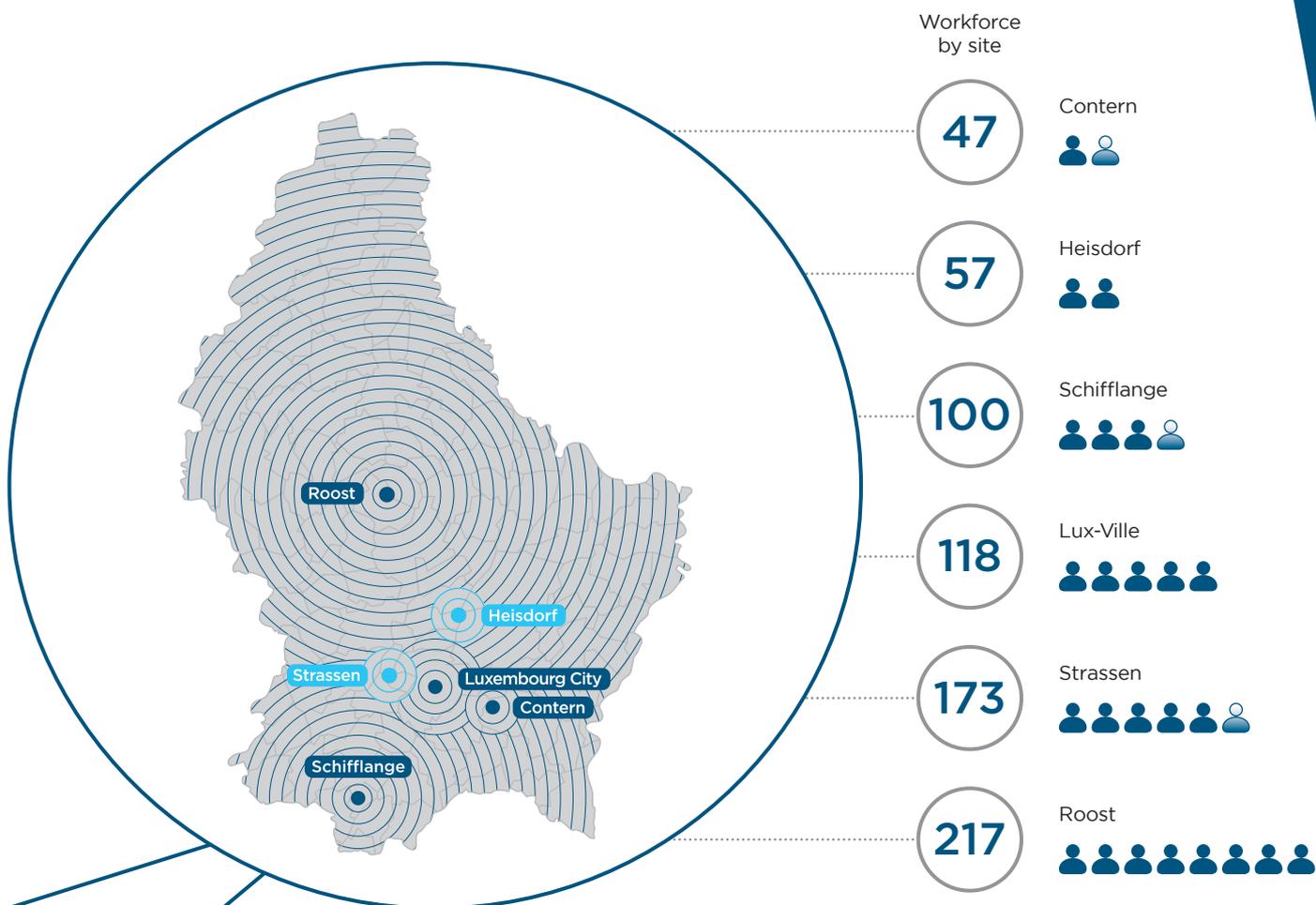
## SCHIFFLANGE

The Schifflange Centre is responsible for electricity networks and infrastructures in the south of the country as well as the high-pressure natural gas network at national level.

## CONTERN

The Creos Metering Services are located in Contern. The gas and electricity metering Centre of expertise is tasked with monitoring and adjusting meters, an area which is changing rapidly with the introduction of smart meters. The Creos laboratory has ISO 17025 accreditation for the calibration of electric meters, gas meters, measuring transformers and volume converters.





### HEISDORF

Dispatching for electricity and natural gas together with the monitoring rooms for remote network control and management are installed at the Creos facility in Heisdorf.

### STRASSEN

The company's headquarters are in Strassen.

### BOVÉ PROJECT

The construction of the new headquarters and operation Centre in the City of Luxembourg began in the summer of 2017. The buildings meet sustainable development criteria, with the goal of DGNB 'platinum' certification. More than 400 people will work on these new premises starting 2020.

### BETTEMBOURG PROJECT

Creos's Dispatching department will relocate to Bettembourg in 2020. Directly adjacent to LuxConnect, the 3,000 m<sup>2</sup> new building will use the data centre's secure networks (Tier IV) as well as its heating, cooling and energy supply networks.

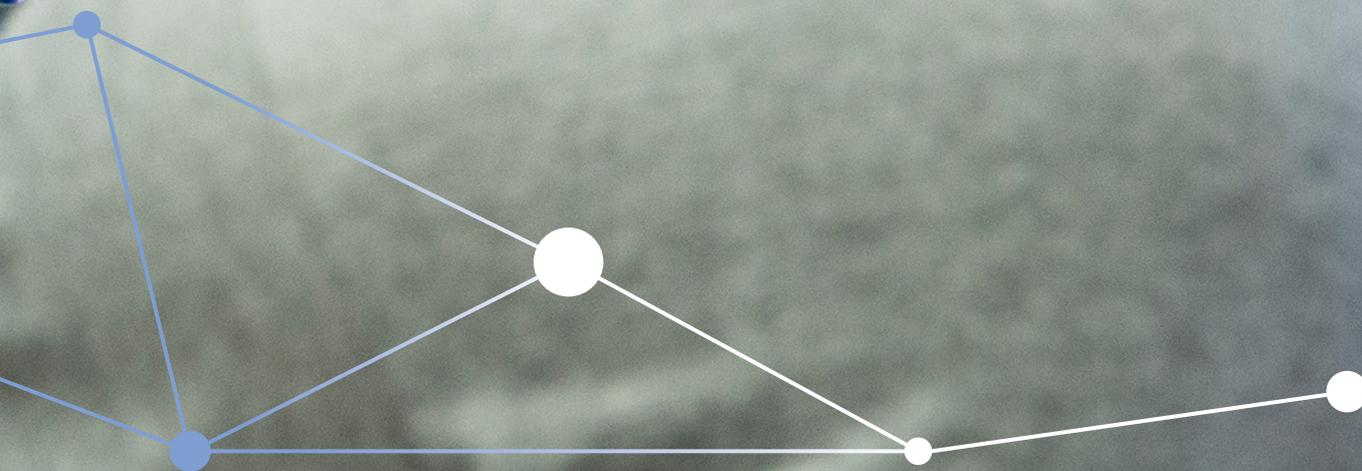
### MERSCH

In the context of the migrant crisis, efforts by the Luxembourg government to steadily increase the number of beds in the Grand Duchy have resulted in the creation, in conjunction with the Mersch municipal administration, of a hostel for asylum seekers (DPI) in the Creos buildings in Mersch. The site, managed by the Luxembourg Red Cross, has total capacity of 320 beds.

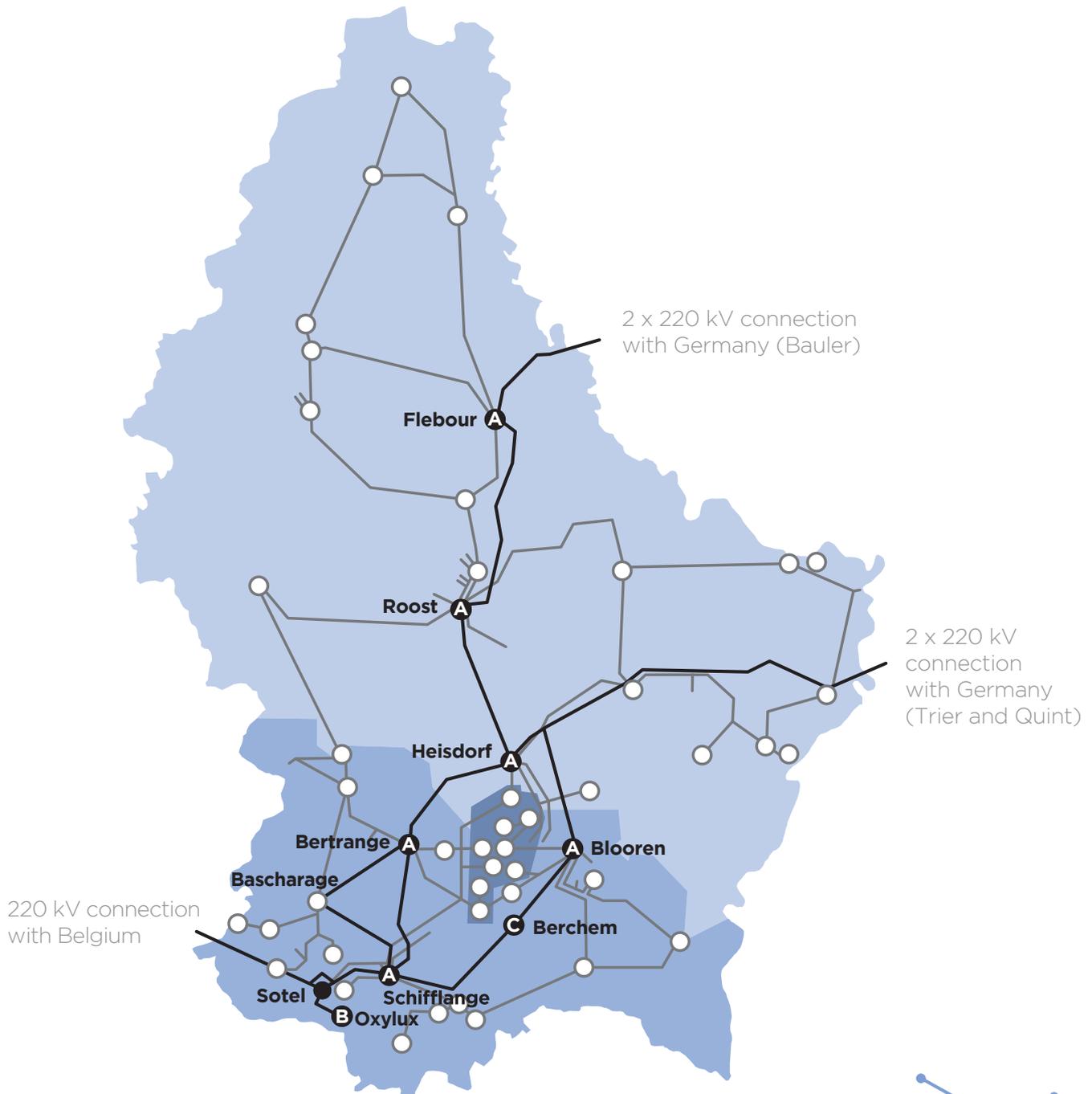




# Electricity



# The electricity transmission grid



— 220 kV - network

— 65 kV - network

**A** Substation 220/65/20 kV

**B** Substation 220/20 kV

**C** Substation 220 kV



# Technical activity

## Major works out at 220 kV and 65 kV during 2018

### Kirchberg loop

To secure power supply and meet growing demand for energy, the supply of the Kirchberg district has been upgraded and improved by adding new high-voltage cables. Two special cable circuits crossing the Grand Duchess Charlotte Bridge were installed during the renovation work there. This project was carried out in collaboration with the Fonds Kirchberg.

Securing supply in the Kirchberg section was also completed with the commissioning of the new Europe station installed beneath "Place de l'Europe".

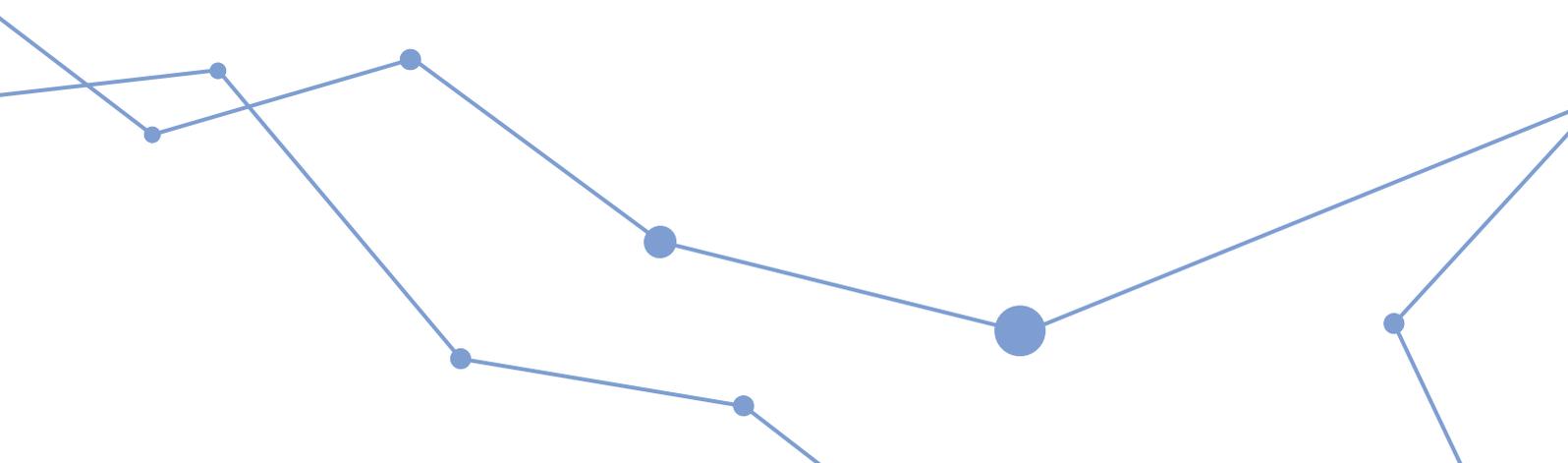
In parallel with the security-of-supply works, a number of multi-tube ducts were installed across the City of Luxembourg, in view of the growth in demand for energy and need to secure supply in existing districts, and also the development of new districts, planned or under construction.

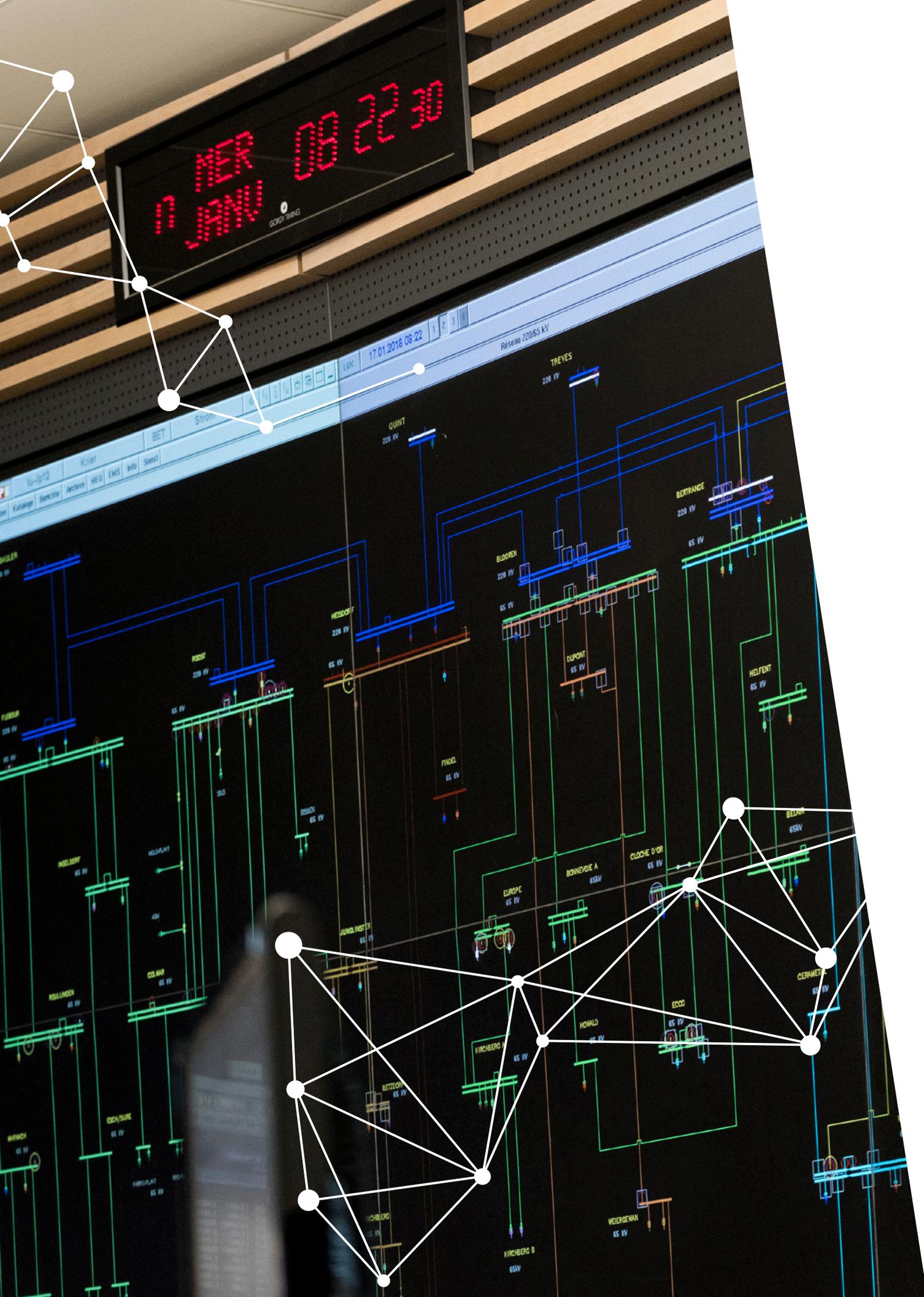
### 220 kV/110-65 kV transformers in Schifflange and Roost

In order to meet future energy demand, the transformers at the end of their lifespan in Roost and Schifflange were replaced with new 300 MVA dual-voltage transformers. These can offer secondary voltage of 65 kV in the immediate term and can be switched to 110 kV for future operational needs.

### Increase in current-carrying capacity

Monitoring modules were installed on the 220 kV Roost-Flebour-Bauler and 65 kV Flebour-Marnach overhead lines to dynamically manage energy transport flows without exceeding the maximum temperature limit and damaging the conductors.

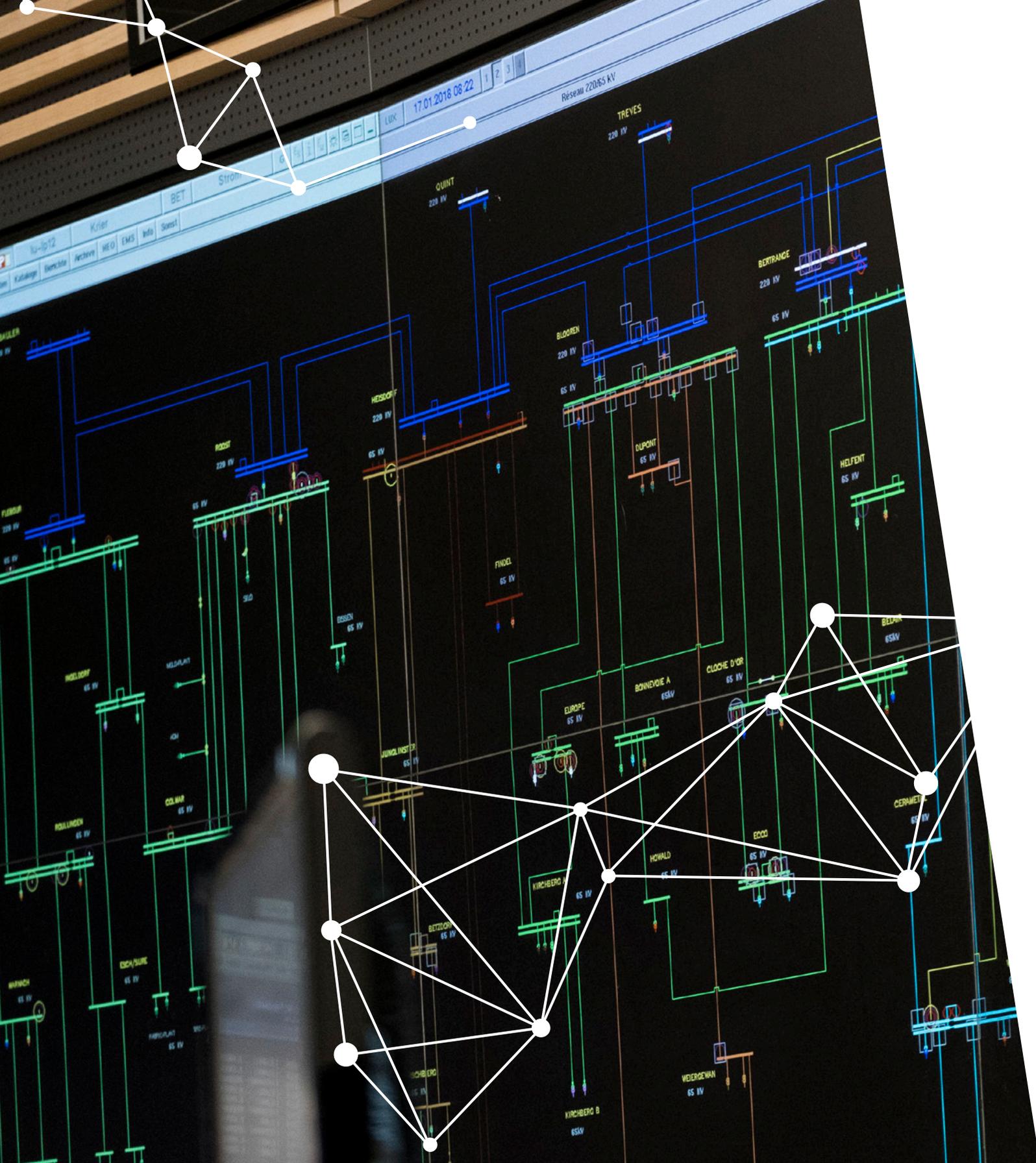




17.01.2018 08:22:30

17.01.2018 08:22

Réseau 220/65 KV



# Evolution of the electricity grid

			2018	2017
<b>Transformer substations</b>	220 kV Phase shift transformer	(number)	1	1
	220 kV	(number)	1	1
	220/65/20 kV	(number)	6	6
	220/20 kV	(number)	1	1
	65 kV	(number)	3	3
	65/20 kV	(number)	37	36
	65/20/5 kV	(number)	1	1
	65/6.3 kV	(number)	1	1
	65/5 kV	(number)	2	2
	20/0.4 kV	(number)	2,633	2,605
<b>High-voltage lines</b>	220 kV 2 3-phase lines <sup>1</sup>	overhead (km)	137.5	137.5
	220 kV 1 3-phase line	underground (km)	5.6	1.9
	220 kV 2 3-phase lines	underground (km)	10.5	10.5
	<b>Total 220 kV (km)</b>		<b>153.6</b>	149.9
	65 kV 1 3-phase line	overhead (km)	178.2	178.2
		underground (km)	27.5	27.5
	65 kV 2 3-phase lines	overhead (km)	183.2	183.2
		underground (km)	47.8	47.1
	<b>Total 65 kV (km)</b>		<b>436.7</b>	436.1
	<b>Medium-voltage lines</b>	20 kV + 5 kV	overhead (km)	986.1
		underground (km)	2,611.9	2,521.5
<b>Total MV (km)</b>		<b>3,598</b>	3,532.9	
		Underground rate (%)	72.6	71.4
<b>Low-voltage lines</b>	400/230 V	overhead (km)	292.2	297.6
		underground (km)	5,445.1	5,366.6
	<b>Total LV (km)</b>		<b>5,737.3</b>	5,664.1
		Underground rate (%)	94.9	94.7
<b>Total (km)</b>		<b>9,925.6</b>	9,783.0	
<b>Chargy charging stations</b>	(number)	245	100	

<sup>1</sup> Including Schiffflange-Bascharage-Bertrange (18.7 km) temporarily operated at 65 kV

# Evolution of the national load

The national peak demand in 2018 was 827.6 MW, compared to 828.8 MW in 2017.

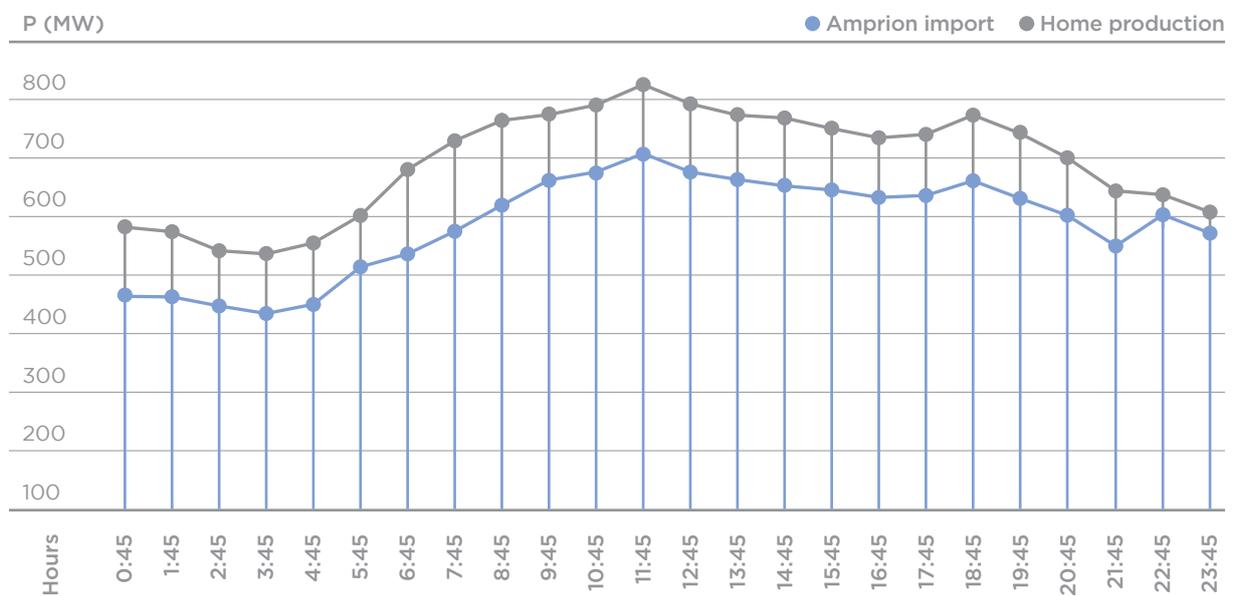
This peak was recorded at 11:45 a.m. on 2 March 2018.

The energy peak in 2018 imported via the Amprion lines was 704.6 MW on 2 March 2018 at 11:45 (compared to 729.4 MW on 24 January 2017).

The usage time of the electricity grid for 2018 amounted to 6,189 hours.

Therefore, the maximum rate of use of the grid was 70.7%.

## Evolution of the national load during the day of 02.03.2018





# Electricity consumption

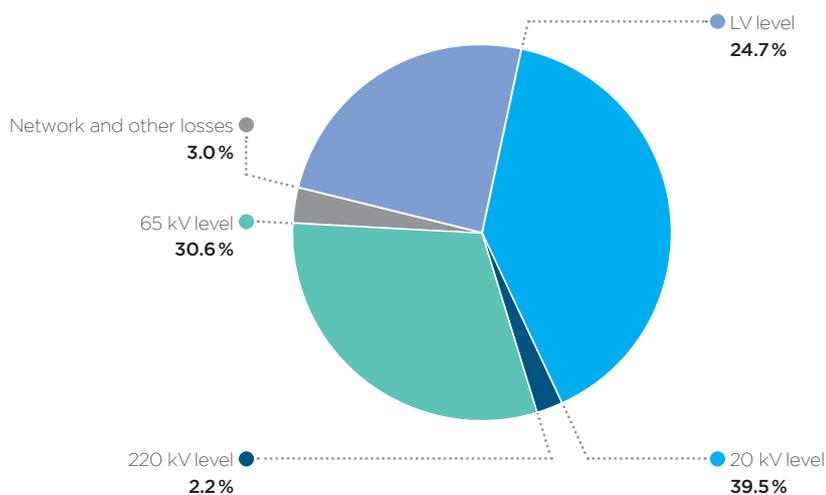
The total volume of electricity fed into the grid at national level via

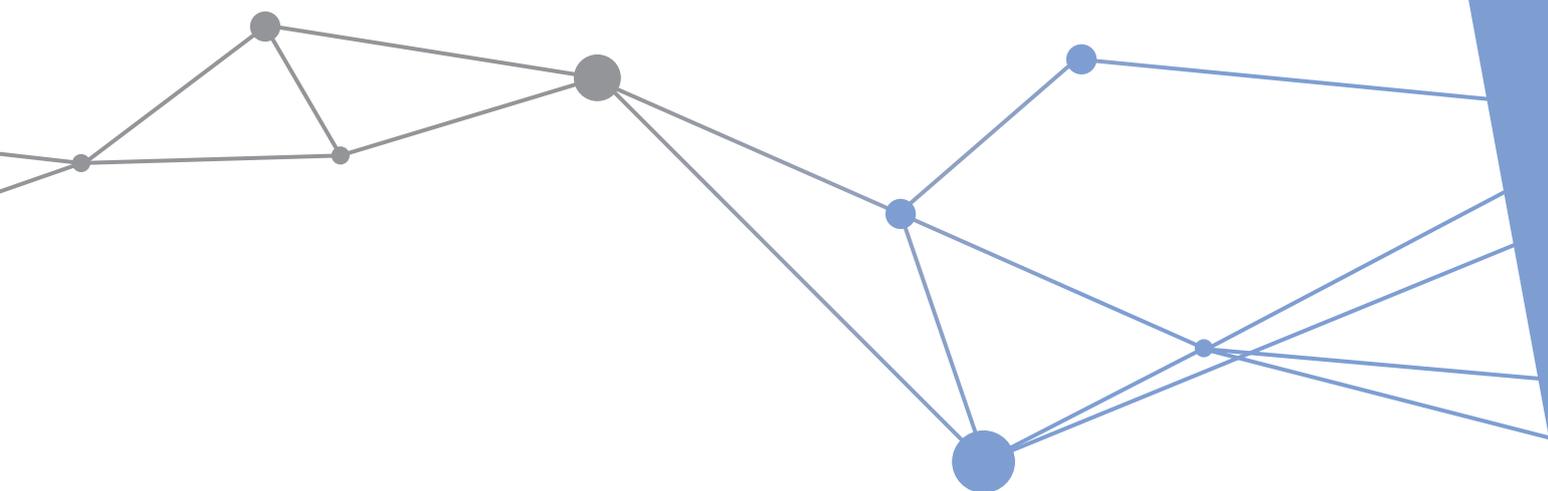
- 220 kV interconnection lines,
- self-generated electricity (with metering on customer sites) or,
- local generation sources connected to Creos networks or to those of the four municipal or private distributors,

amounted to 5,121.9 GWh in 2018 (5,132.5 GWh in 2017), corresponding to a decrease of -0.21% in national consumption. The flows coming from the PST (Phase Shifting Transformer) have not been taken into account for this statistics.

## Consumption by voltage level

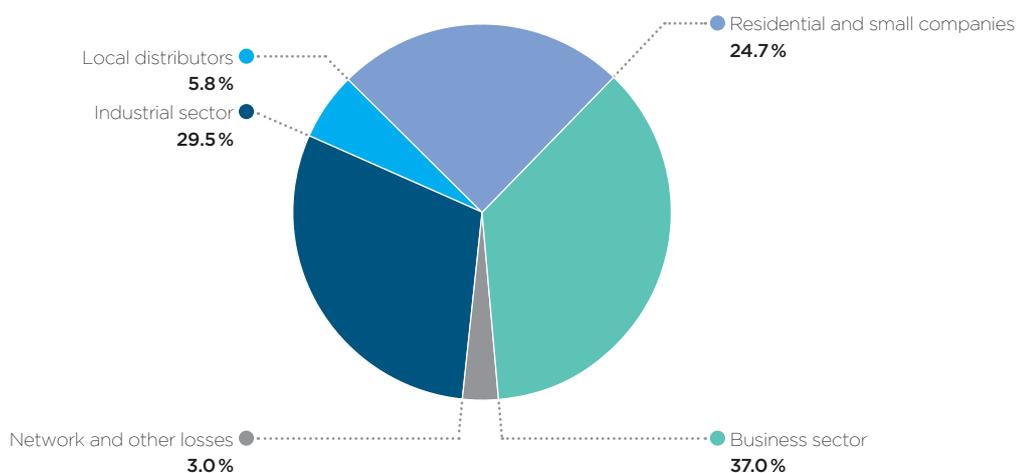
		2018	2017	Variation
<b>Consumption</b>				
220 kV level	(GWh)	112.6	157.6	-28.6%
65 kV level	(GWh)	1,566.6	1,545.6	+1.4%
20 kV level	(GWh)	2,023.7	1,997.9	+1.3%
LV level	(GWh)	1,263.7	1,275.5	-0.9%
<b>Network and other losses</b>				
	(GWh)	155.3	155.9	-0.4%
<b>Total</b>	(GWh)	<b>5,121.9</b>	5,132.5	-0.2%





## Consumption by sector

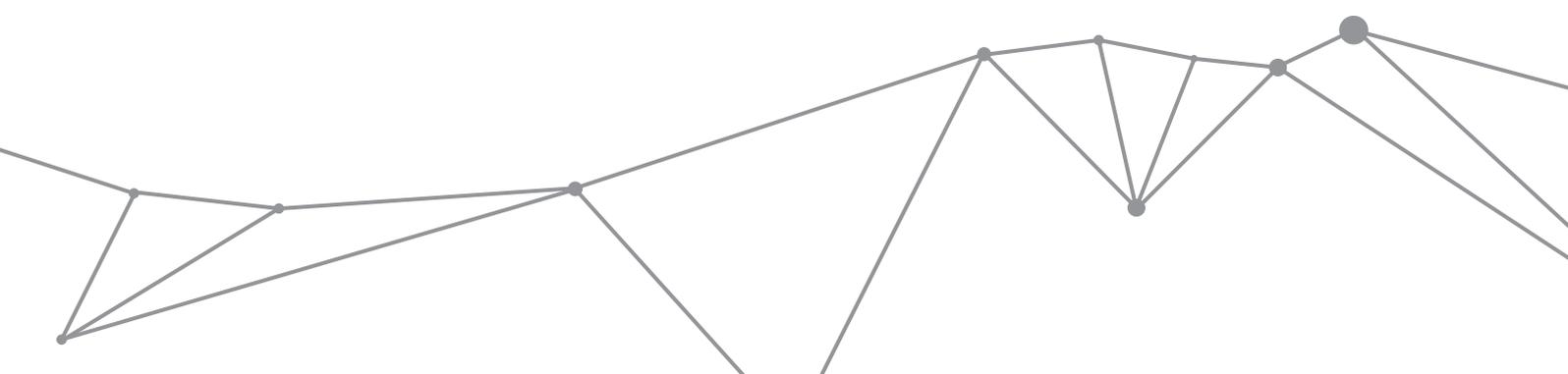
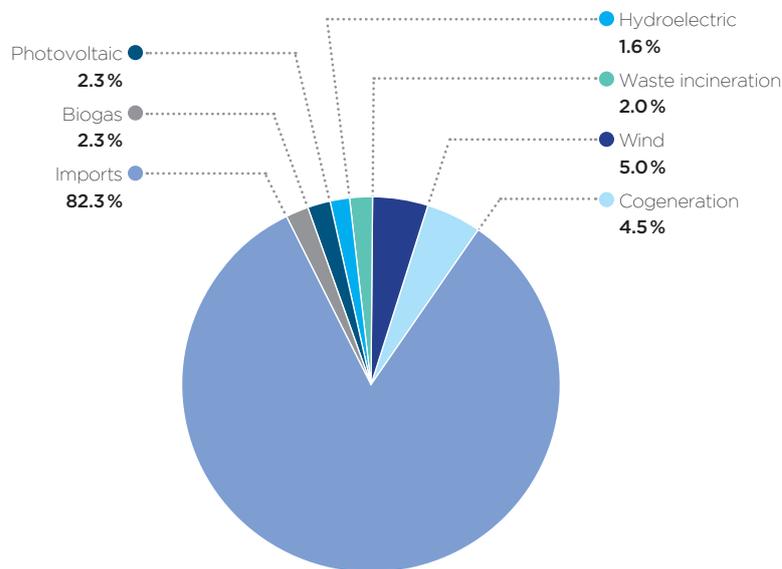
		2018	2017	Variation
<b>End customers</b>				
Industrial sector	(GWh)	<b>1,510.1</b>	1,534.8	-1.6%
Business sector	(GWh)	<b>1,895.2</b>	1,869.0	+1.4%
Residential and small companies	(GWh)	<b>1,263.7</b>	1,275.5	-0.9%
<b>Local distributors</b>	(GWh)	<b>297.5</b>	297.4	+0.1%
<b>Network and other losses</b>	(GWh)	<b>155.3</b>	155.9	-0.4%
<b>Total</b>	(GWh)	<b>5,121.9</b>	5,132.5	-0.2%



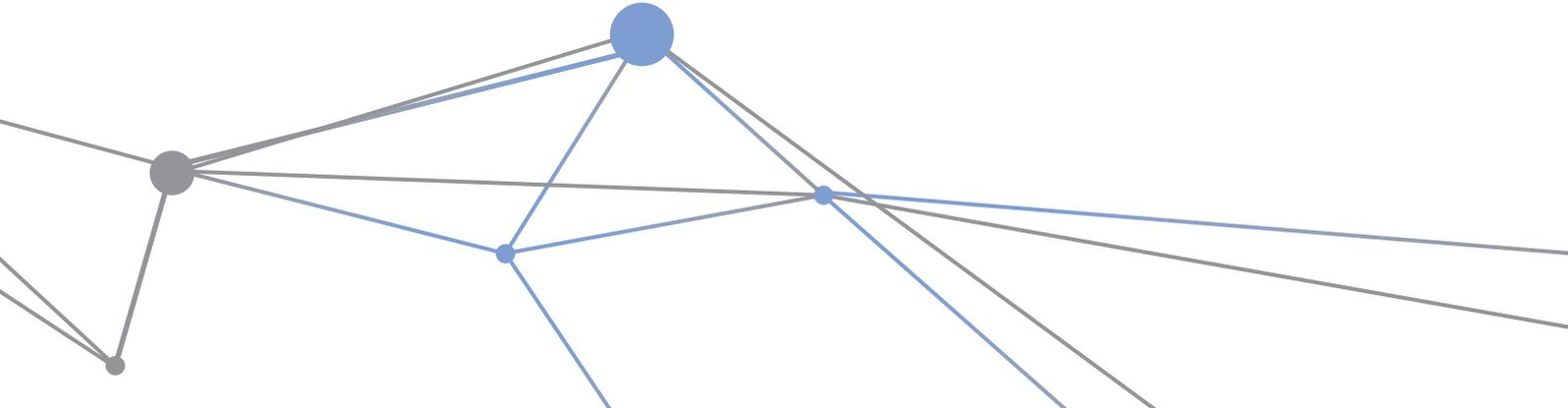
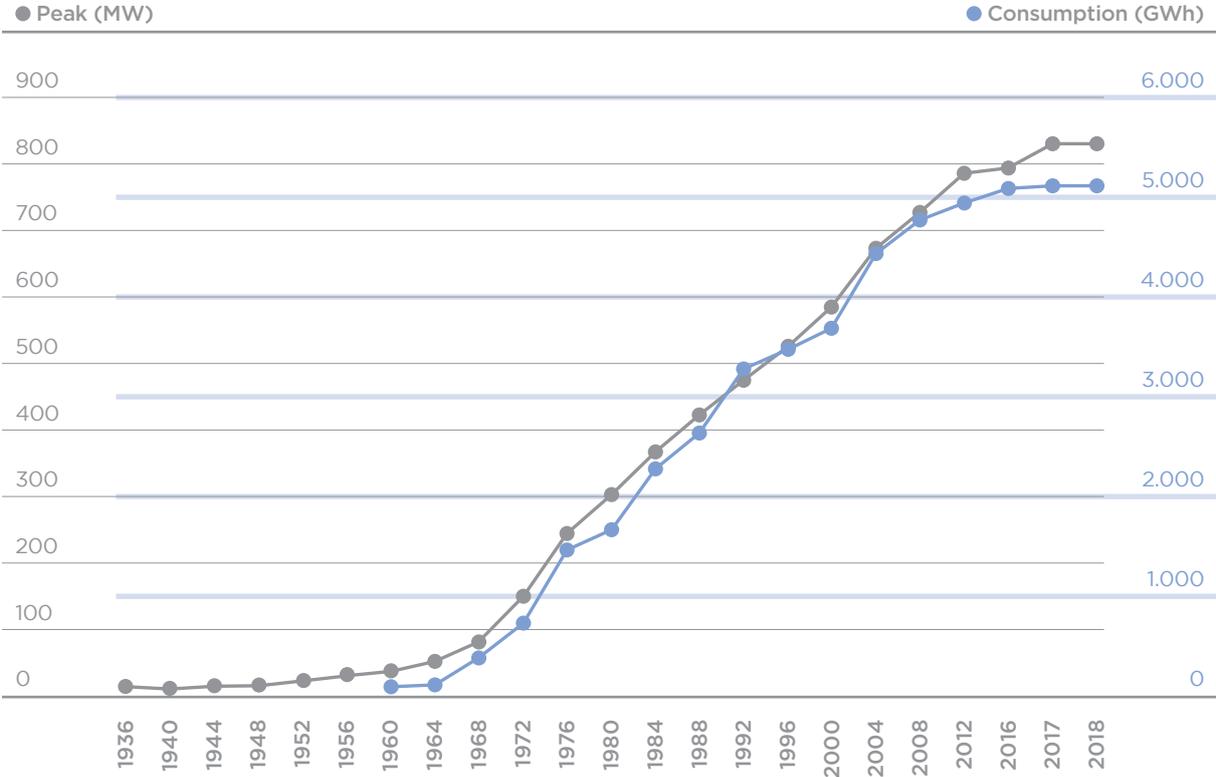
# Injections into the electricity network

		2018	2017	Variation
<b>Cross-border exchanges</b>				
Imports	(GWh)	4,214.4	4,275.2	-1.4%
<b>Home production</b>				
Cogeneration	(GWh)	232.9	243.6	-4.4%
Hydroelectric*	(GWh)	79.6	74.7	+6.6%
Wind*	(GWh)	254.3	234.5	+8.4%
Waste incineration*	(GWh)	104.4	104.5	-0.1%
Biogas*	(GWh)	118.2	90.3	+30.9%
Photovoltaic*	(GWh)	118.1	109.7	+7.7%
<b>Total</b>	(GWh)	<b>5,121.9</b>	5,132.5	-0.2%

\* renewables



# Evolution of the peak and network demand



# Network reliability

An economic base which is diversifying and developing and a rapidly growing population obligate Creos to strengthen and expand its networks in order to maintain a high quality infrastructure and guarantee the security of supply at all times. This continues to be the absolute priority for Creos, which is responding to this challenge with a large programme of investment. With the Luxring being operational and the interconnection with Belgium, Luxembourg is consolidating its position among the European electricity grids.

The challenges of the future are to integrate renewable energies and consumers who are also becoming producers. Flows on the grid will become bidirectional, and the network operator will have the responsibility of managing them through the development of a smart grid.

Efforts over the course of many years to bury as many lines as possible are bearing fruit today. Underground lines are naturally less exposed to weather conditions, and are less vulnerable as a result. Creos now has 94.9% of its low-voltage power lines and 72.6% of its medium-voltage lines underground, representing over 8,000 km or 80% of the entire network, a level of performance which exceeds European standards.

Creos has always been concerned that its facilities should be integrated effectively with the environment. Today, for example, new high-voltage transformer stations are all gas-insulated substations. At the leading edge of technology, these are discreet and compact, with a footprint of only one-fifth of the traditional outdoor substations, and are landscaped to blend in with the scenery. Low- and medium-voltage substations within the boundaries of local communities are today constructed exclusively as shielded substations with stone walls, or prefabricated concrete or steel structures, or are directly integrated into a building.

Creos substations comply with all safety regulations to ensure optimal protection in the event of fire, unauthorized access or bad weather. Accordingly, sites housing transformers are soundproofed and have a leak proof tank to recover the oil in the event of a leak. The substations have surveillance cameras directly connected to the Dispatching.

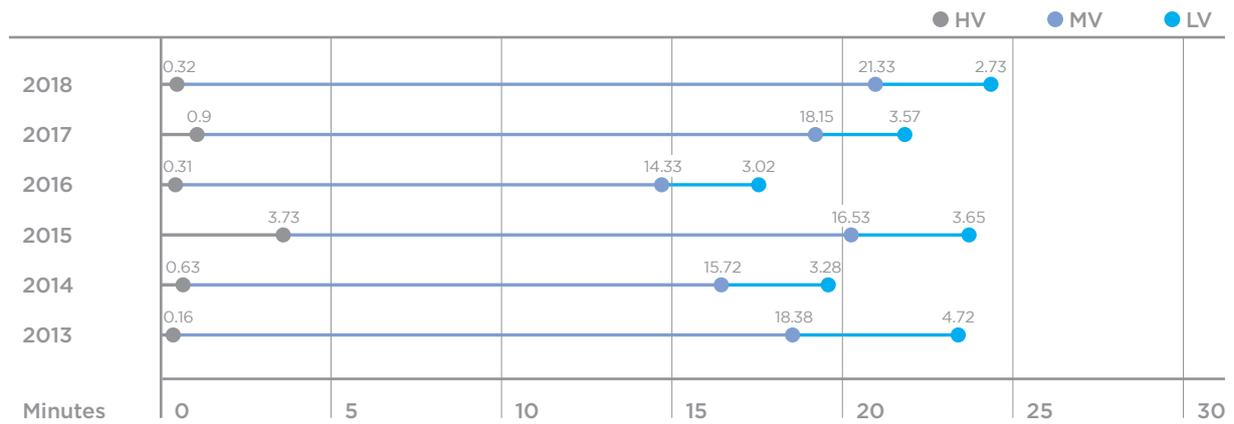
Creos strives to reduce to a strict minimum incidents on the grid and the interruptions in supply which can result.

Live working (*Arbeiten unter Spannung* - AuS in German) has become an essential approach for meeting the needs of industry, SMEs and individuals as fully as possible, providing a means of optimizing network operation and avoiding inconvenient outages for clients. Today, this technique is used for numerous interventions on electrical installations.

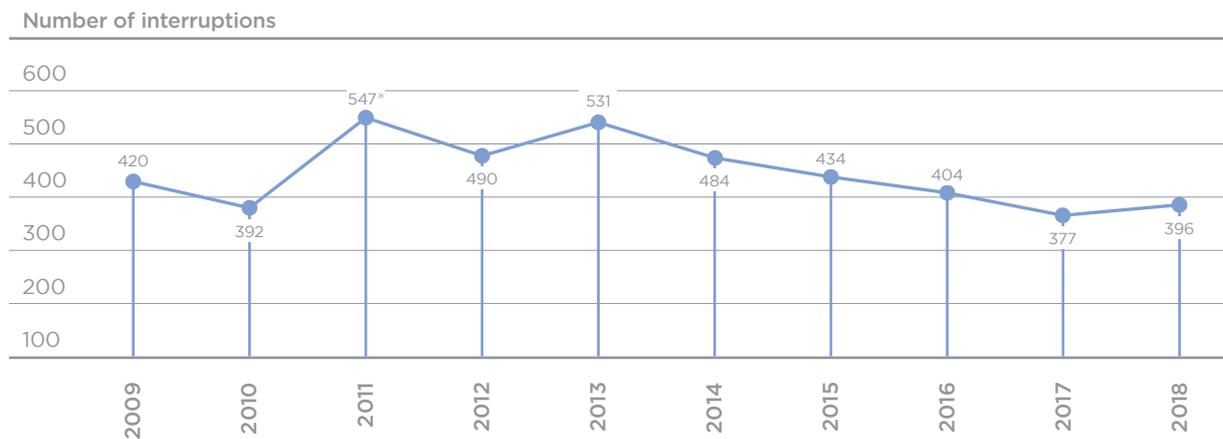
## Total length of overhead lines



## Average annual power outage time within the Creos network (SAIDI)

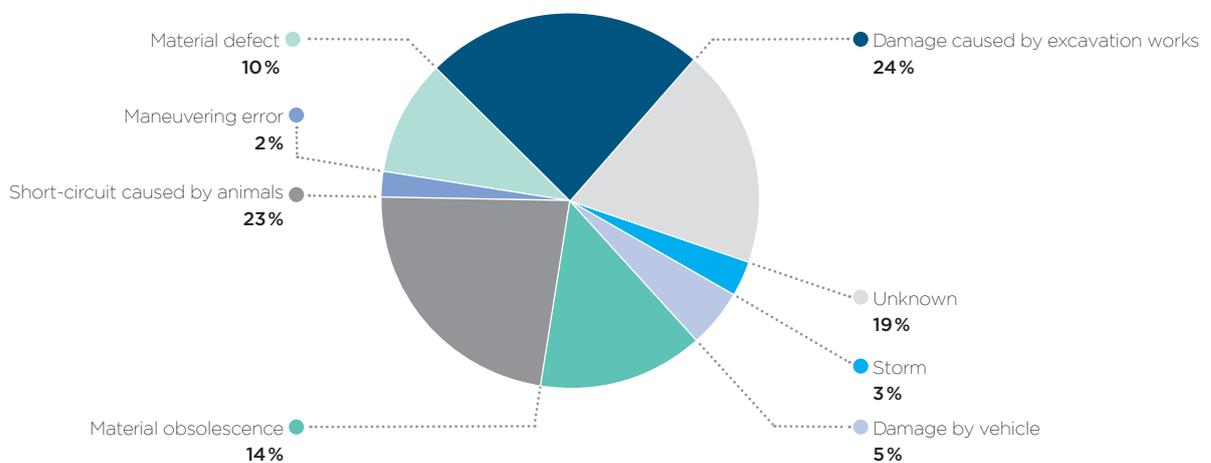


## Perceptible LV-interruptions (>3 min) 2009-2018



\*Integration of the electricity network of the City of Luxembourg (as at 01.01.2011)

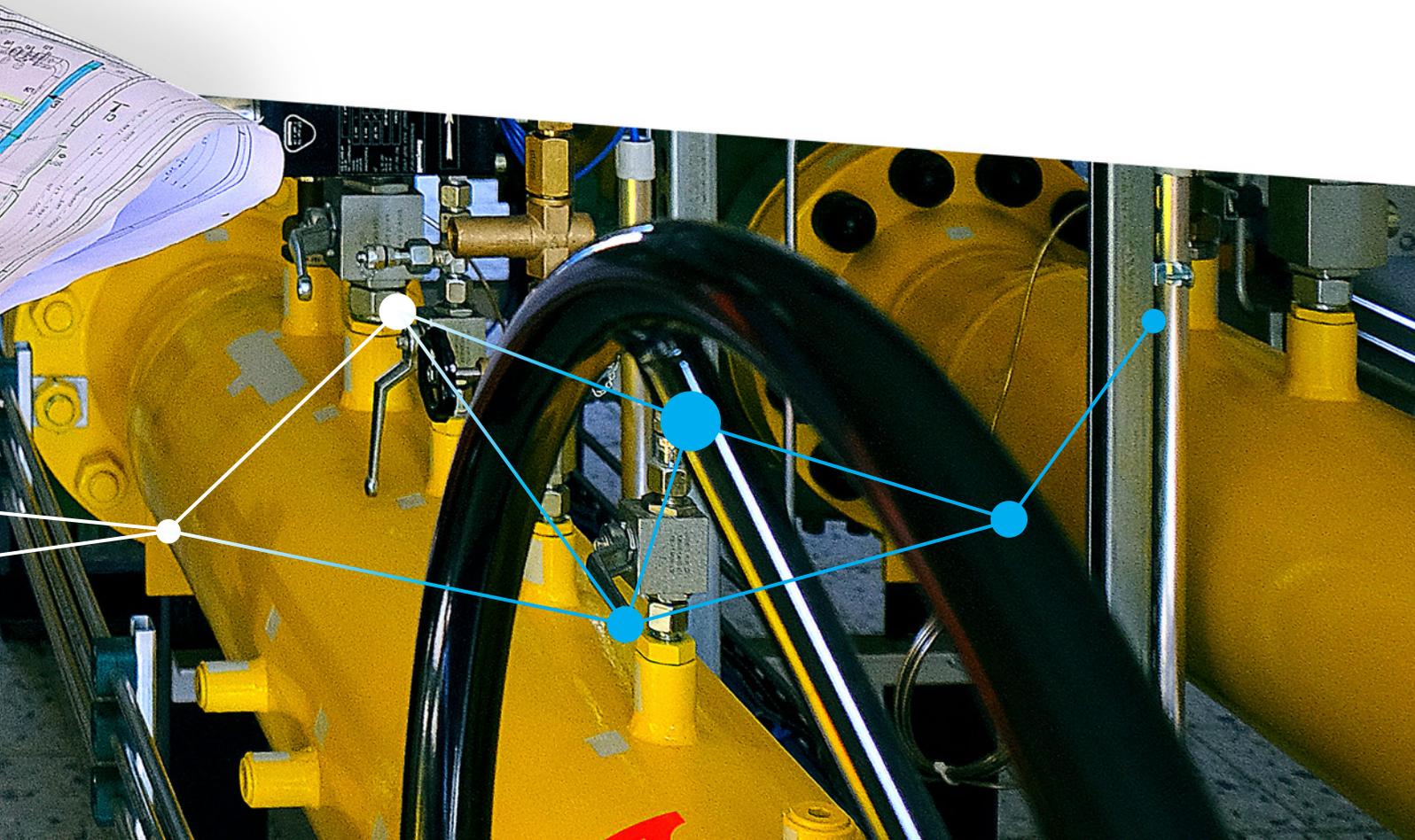
## Causes of LV-interruptions



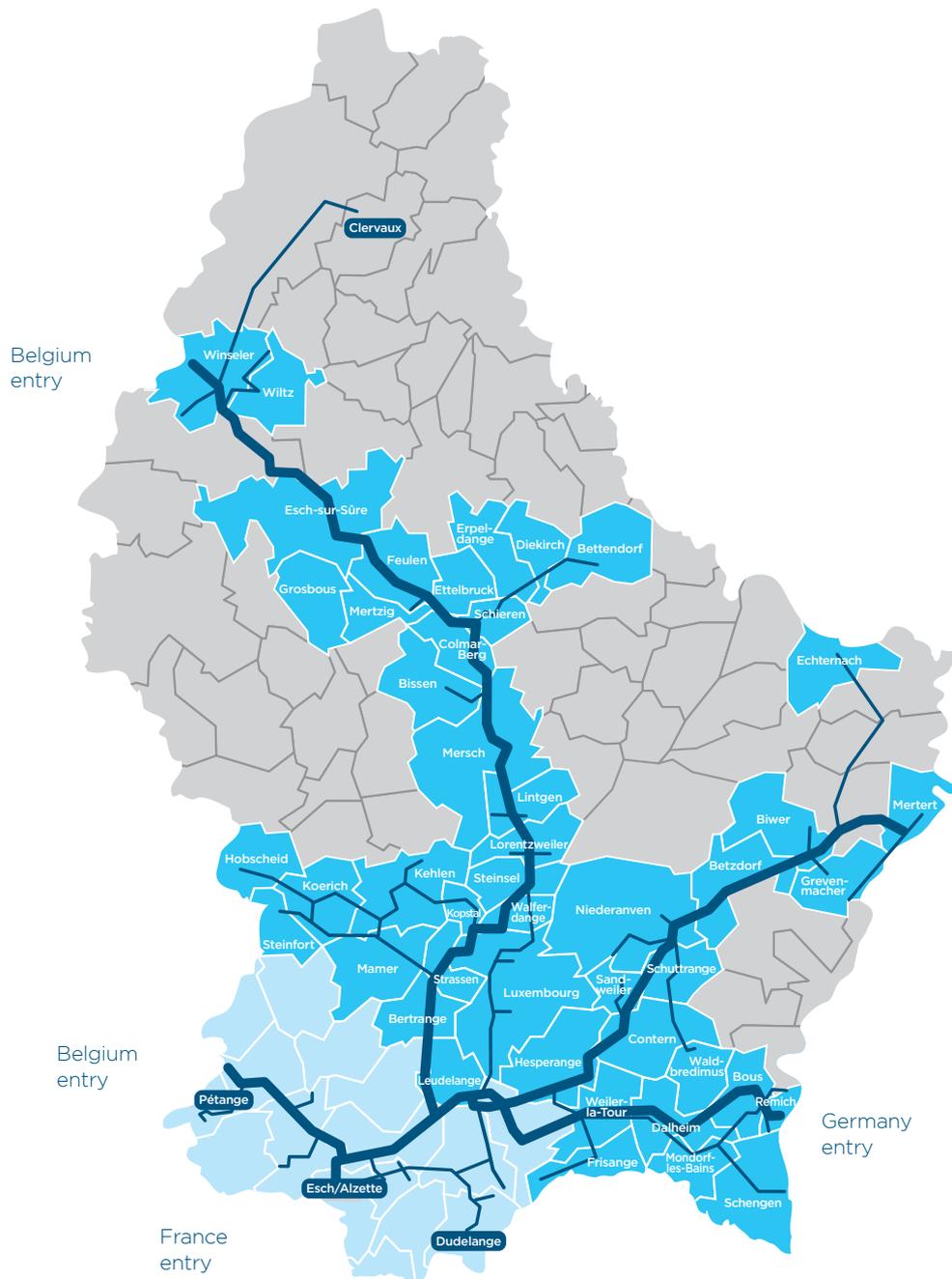




# Gas



# The natural gas transmission grid



— Creos transmission grid

● Sudgaz, city of Dudelange

● Municipalities supplied with natural gas by Creos

● Municipalities not supplied with natural gas



# Technical activity

## Transportation network

### Schifflange Centre

#### Construction of a new pressure-reducing station at Ehlerange

In view of the decommissioning of the Twinerg plant in Esch/Alzette, Creos Luxembourg constructed a new pressure-reducing station to ensure the continuous supply of natural gas on the district heating network on the Agora site.

As the operator of the Sudgaz network has also requested an increase in the volume of natural gas available in the area around the municipality of Ehlerange, Creos Luxembourg modified its initial connection project to meet the requests of both its customers Sudcal and Sudgaz.

In view of the dismantling work at the Twinerg facility, the new pressure-reducing station was commissioned in November 2018.

#### Construction of a pressure-reducing station in Kirchberg

Taking into account certain operational restrictions relating to service pressure on the Kirchberg plateau, Creos Luxembourg built a new pressure-reducing station which will make a significant contribution to improving the security of supply in this district, which is undergoing a lot of development.

## Distribution network

### Roost Centre

The continuous extension of our medium-pressure network required extension of a d200 duct by approximately 3 km towards the industrial area of "Fridhaff", located between the municipalities of Erpeldange and Diekirch, during the 2018 financial year.

### Hollerich Centre

In Luxembourg City, the upgrading of the distribution grid (14.56 km MP/LP) and the replacement of connections (655 x) have continued, thanks to intensive efforts.

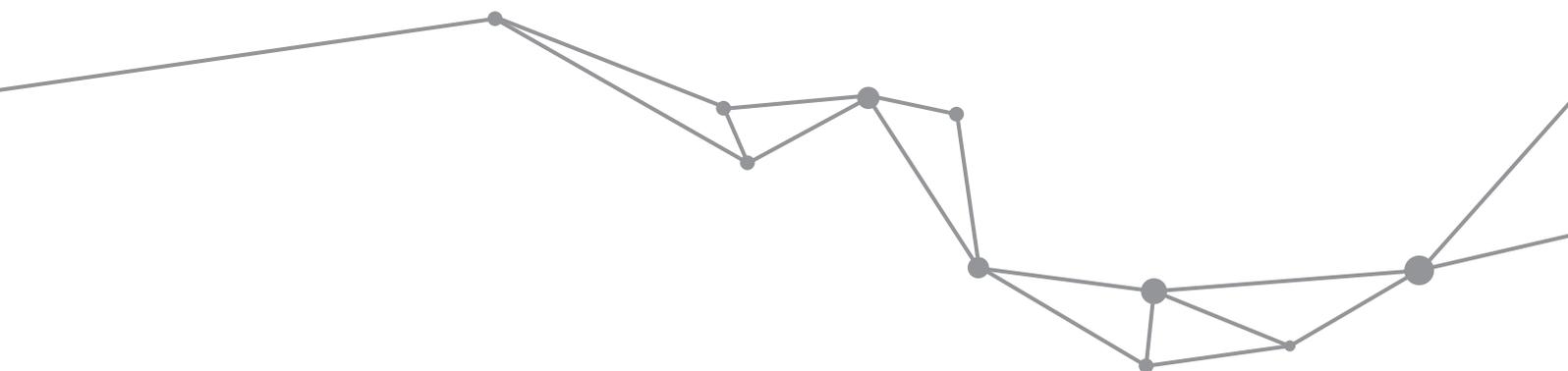
In general, work on completing and upgrading the medium-pressure grid covering 5.3 km continued during the 2018 financial year. The extension of the low-pressure distribution grid in the municipalities continued with the same workload as during the previous financial year.

In total, 17.8 km of distribution lines were laid during the 2018 financial year.

# Evolution of the natural gas grid

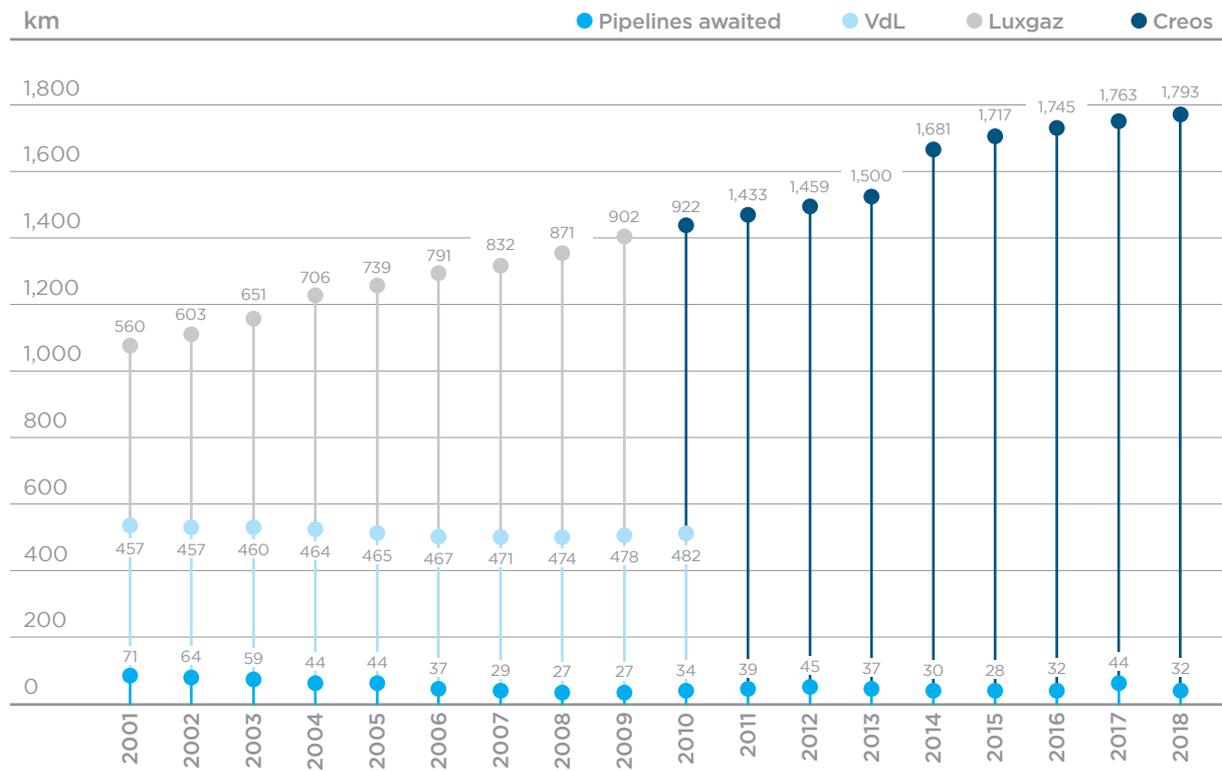
		2018	2017
<b>Length of the grid by activity</b>			
TSO (transmission)	(km)	<b>283.3</b>	281.8
DSO (distribution)*	(km)	<b>1,826.3</b>	1,808.5
<b>Total</b>	(km)	<b>2,109.6</b>	2,090.3
<b>Length of the grid by PN (nominal pressure)</b>			
PN 80/67.5	(km)	<b>216.5</b>	215.0
PN 40	(km)	<b>39.4</b>	39.4
PN 25	(km)	<b>2.1</b>	2.1
PN 16	(km)	<b>22.8</b>	22.8
PN 4	(km)	<b>2.5</b>	2.5
<b>Total</b>	(km)	<b>283.3</b>	281.8
<b>Pressure-reduction substations on the transmission grid</b>			
Border substations	(number)	<b>4</b>	4
Active stations (with teletransmission capability)	(number)	<b>60</b>	59
<b>Total</b>	(number)	<b>64</b>	63

\*grid in service and awaited

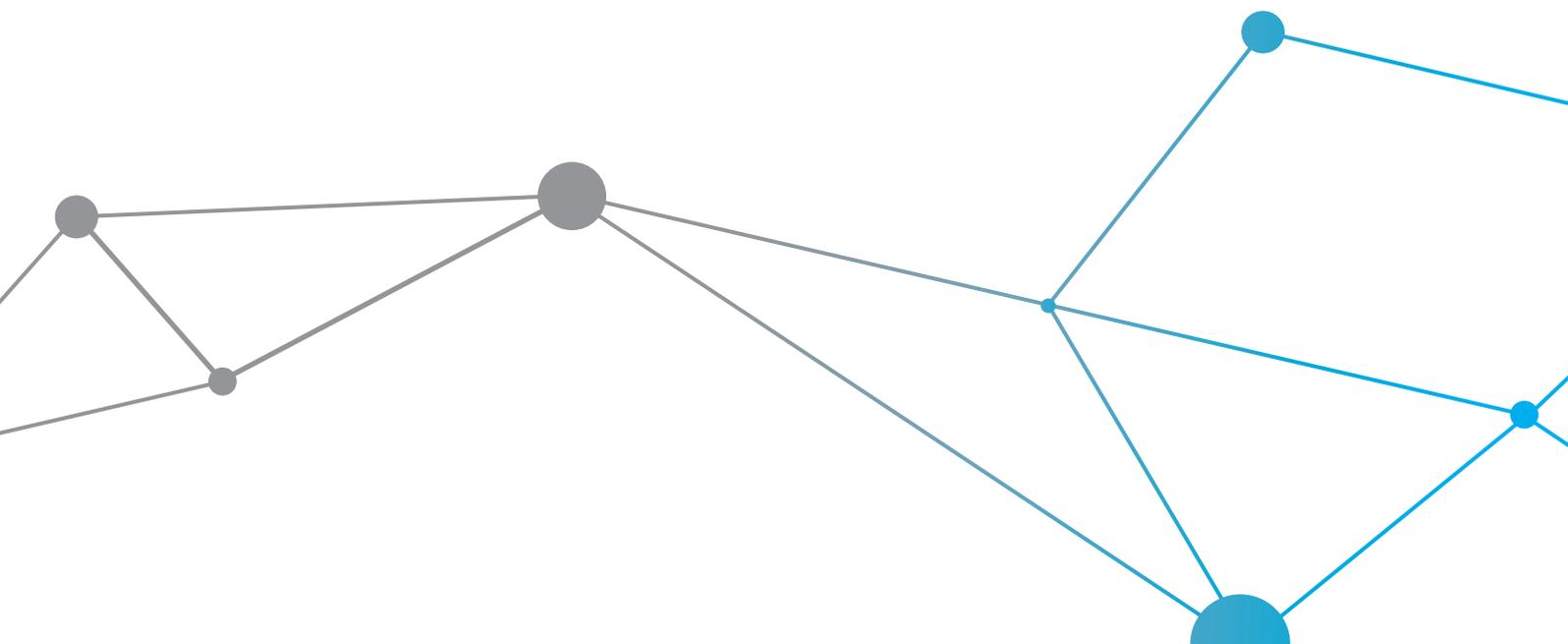




## Natural gas distribution grid: length of pipelines in service



At 31 December 2018, the Creos distribution network consisted of 1,826.3 km of laid pipelines, of which 1,793.6 km were in service and 32.7 km pressurised with air, pending implementation.



# Volume transported

In 2018, the volume carried on the transmission network amounted to a total of 8,834 GWh, -1.4% compared to 2017.

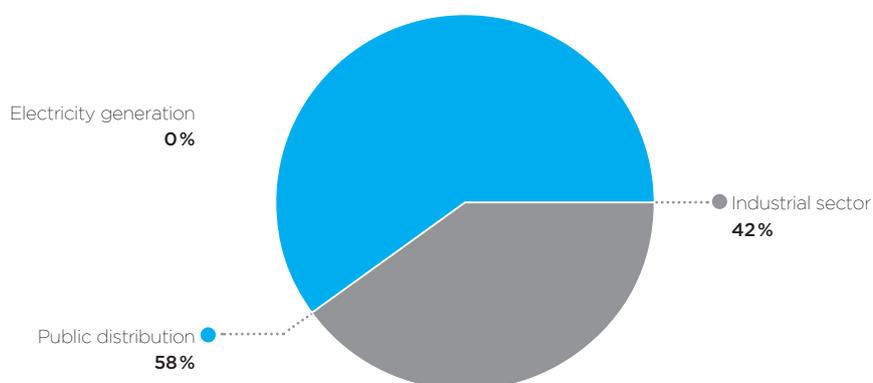
		2018	2017	Variation
Total capacity reserved for transmission	(Nm <sup>3</sup> /h)	319,000	319,000	0.0%
Gas grid peak	(Nm <sup>3</sup> /h)	220,028	205,988	+6.8%
<b>Total volume carried</b>	(GWh)	<b>8,834</b>	8,957	-1.4%

# Demand on the Luxemburgish market

## Total demand by sector

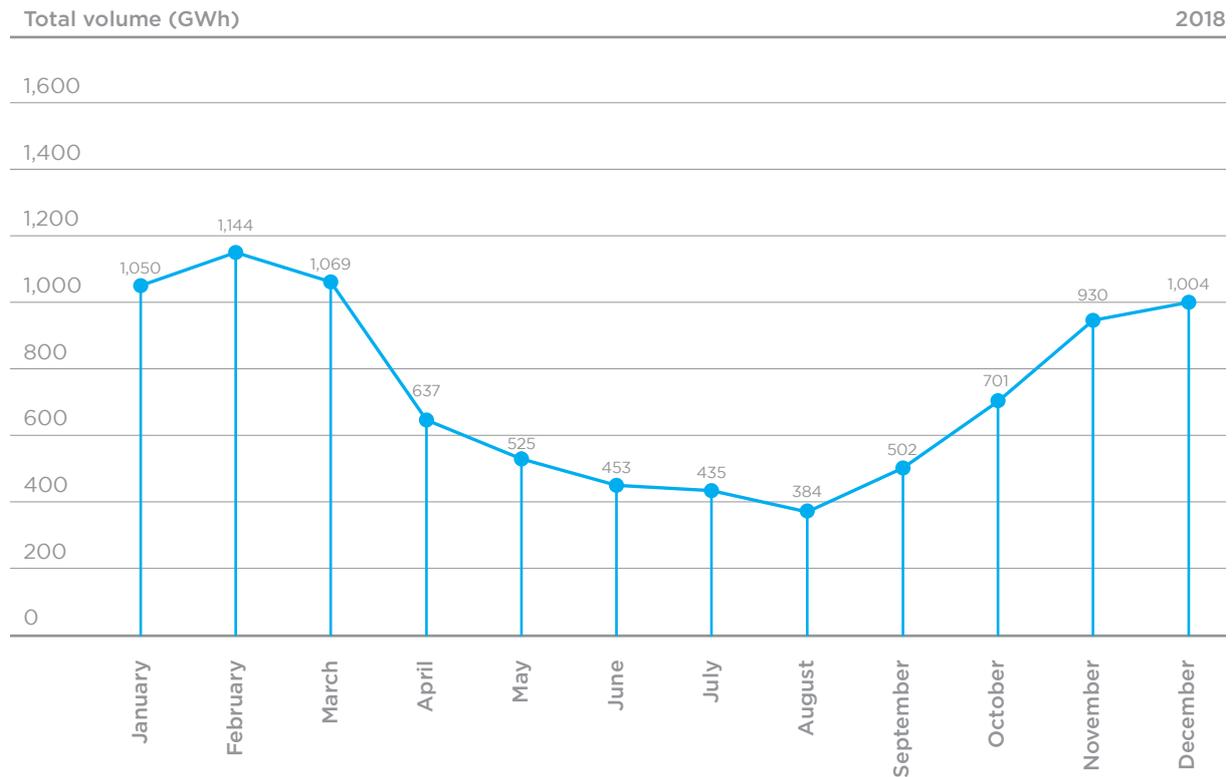
		2018	2017	Variation
Industrial sector	(GWh)	3,753	3,694	+1.6%
Public distribution	(GWh)	5,081	5,263	-3.4%
of which Creos	(GWh)	3,224	3,367	-4.2%
<b>Total</b>	(GWh)	<b>8,834</b>	8,957	-1.4%

Closing down operations at the Twinerg S.A. electricity plant in Esch/Alzette mainly contributed to a drop in consumption in the Grand Duchy of Luxembourg. Due to mild temperatures, this negative effect has not been compensated by a rise in natural gas demand among residential customers. The financial year 2018 has however been marked by an economic revival especially in the industrial sector.



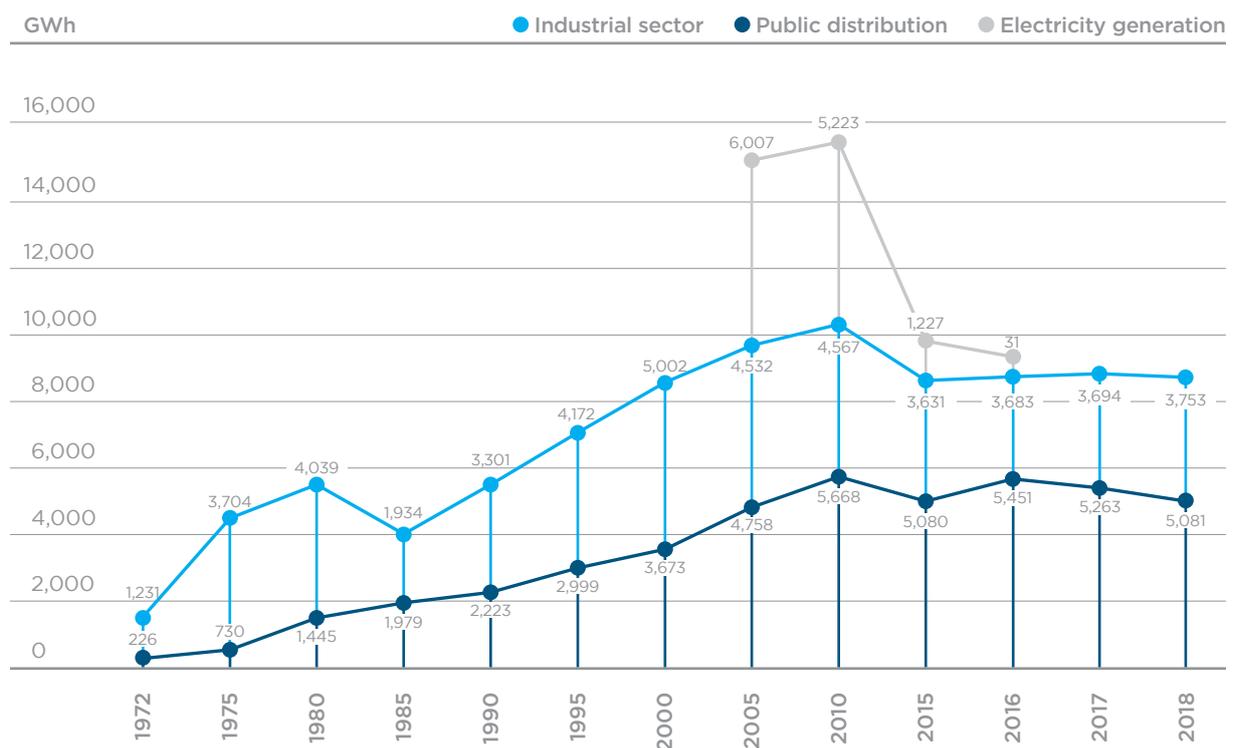


## Total demand per month

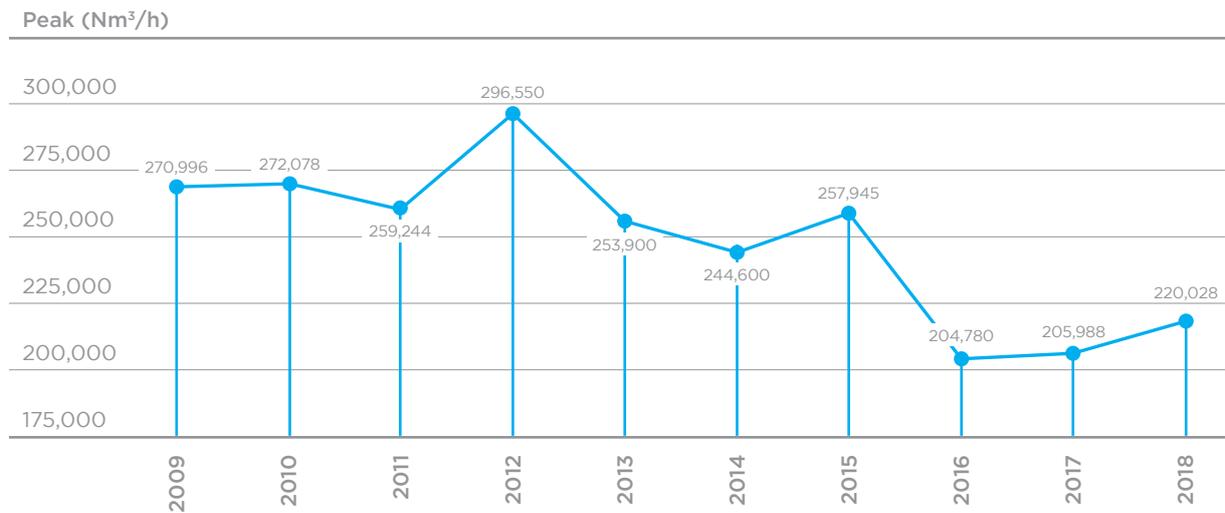


Total demand includes the large-scale industrial and electricity production sector.

## Evolution of the total demand per year

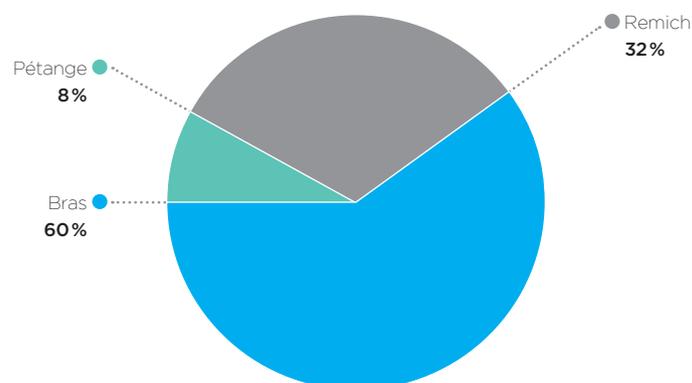


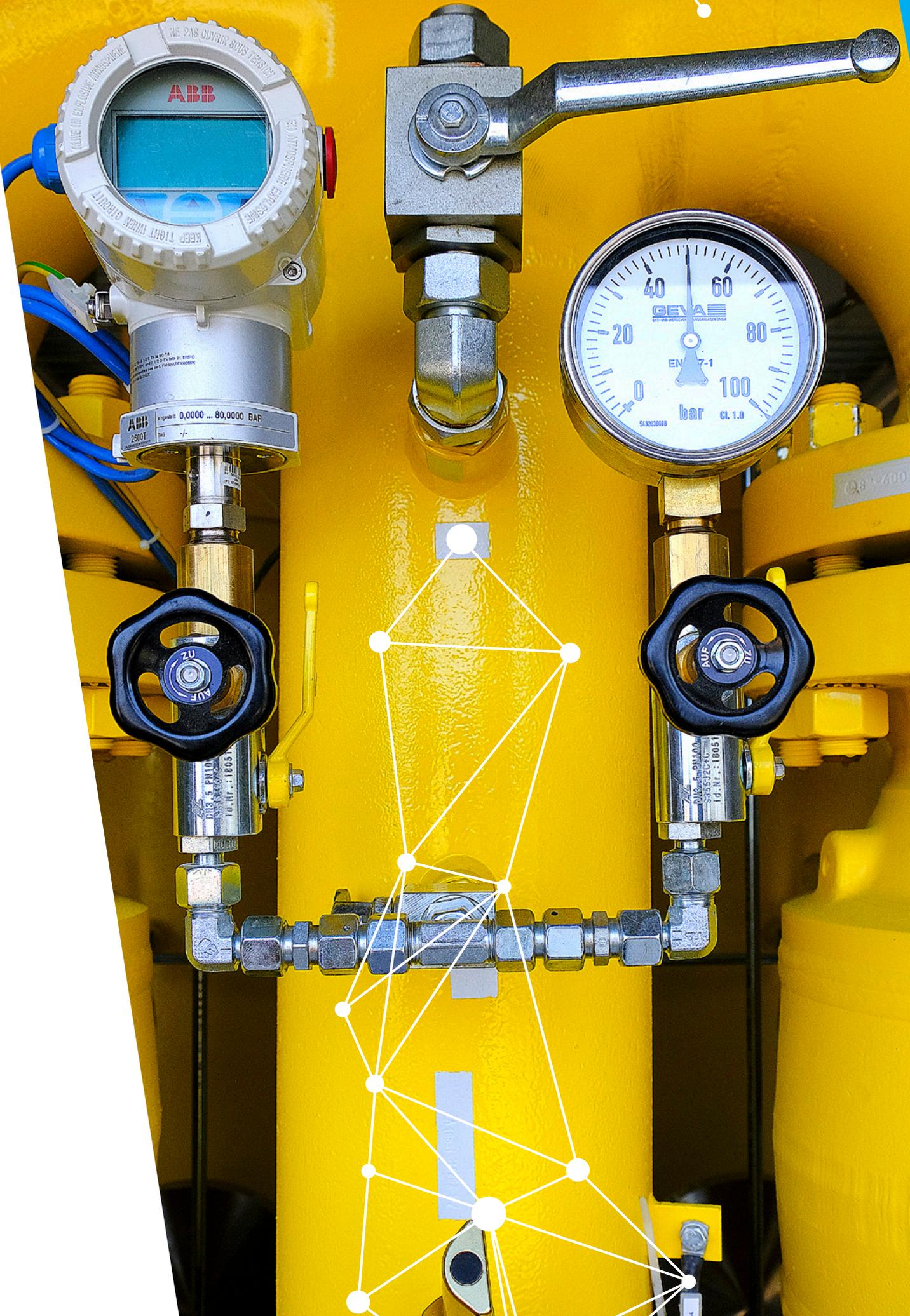
# Evolution of the network peak



## Breakdown of flows per point of interconnection

			2018	2017	Variation
Remich	German network	(GWh)	2,854	1,707	+67.0%
Bras	Belgian network	(GWh)	5,272	5,834	-9.6%
Pétange	Belgian network	(GWh)	708	1,416	-50.0%
<b>Total</b>		(GWh)	<b>8,834</b>	8,957	-1.4%

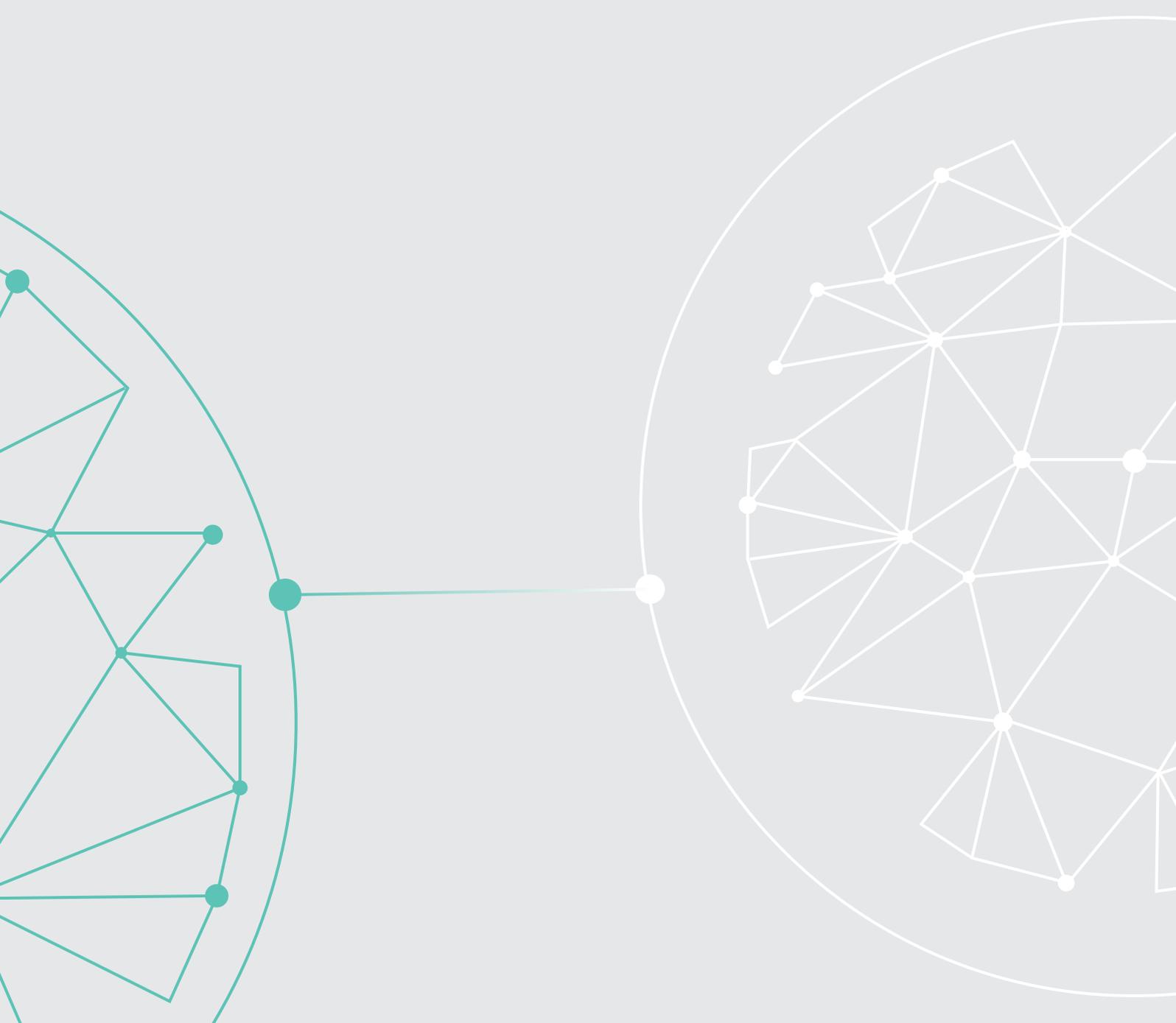








# Subsidiaries, equity interests and partnerships of Creos Luxembourg



# Interview with Jens Apelt, Managing Director of Creos Deutschland Group

## What are the trends within the gas and electricity market in Germany?

**Jens Apelt:** In Germany, natural gas consumption is around 900 TWh per year, which is 1.5 times higher than electricity consumption at 600 TWh per year. Natural gas will continue to play a major role in the energy market over the coming years, as it will not be possible to convert consumer appliances or production processes in the near future.

Meanwhile, there has been a notable change: the move away from the idea of an "all-electric world" towards the new main focus, the so-called coupling – the complementary interaction of the electricity, heat, traffic and industry sectors. The long-term implementation of gas in the energy system will only work with "green or blue gases" (biogas, hydrogen, synthetic gas). For this purpose, different technologies are available e.g. Power-to-X, CCS/CCU (Carbon Capture and Storage / Carbon Capture and Utilization) as well as other methods.

Within the European Commission, at ACER and many European and national associations, numerous studies on these topics have already been conducted and even more will be carried out in the future. All these studies provide a highly heterogeneous picture.

Therefore, it is impossible to predict what a largely carbon-free energy supply in Europe would look like. It is hoped that all further ongoing discussions will take place in a climate that is ideology-free and open to technology.

The decision of Creos Deutschland to enter the electricity grid business must be seen in the context of the above-mentioned discussions, as – besides the diversification of the grid business – new opportunities will present themselves particularly in the field of coupling.

## What are the highlights of the year 2018 for Creos Deutschland, Creos Deutschland Stromnetz and Creos Deutschland Services?

**J.A.:** 2018 was characterized in particular by the integration of Creos Deutschland Stromnetz GmbH, the implementation of new legal requirements, the necessary internal reorganization due to company leaves and the general continuation of our "Saarländische Kooperation" project. All these factors will have a significant impact on the future of Creos Gruppe Deutschland:

- Integration and relocation of the administration team of Creos Deutschland Stromnetz GmbH to Homburg and technical integration of those employees who are still at the Saarbrücken location (STEAG)
- Preparation of contractual agreements with an industrial customer for a connection to the power grid in 2019
- Approval of the cost application for the second regulation period 2014-2018 by the LRegK and subsequent enforcement of the negotiated reduction of the purchase price with STEAG
- SAP/BCP integration of Creos Deutschland Stromnetz GmbH with monthly and quarterly reporting (QPD)



Jens Apelt,  
Managing Director



- Realization of digitalization projects (e.g. go-live of SAP-EAM) as well as the correct implementation of requirements in respect of GDPR (new General Data Protection Regulation)
- ISMS implementation and certification / TSM & ISO 9001 audit and recertification
- New structure in organization and workforce, preparation for knowledge transfer of experienced key employees
- General approval on continuation of the co-operation between the partners of the "Saarländische Kooperation"
- General consolidation pressure among grid operators, selection of the "right" partner
- Co-operation with other value chain stages being blocked by the unbundling requirements
- Competition for talents and highly-qualified specialists
- The role of Creos Deutschland in the transformation of energy systems (decarbonization, coupling)
- Cross-sector applications
- Competitive pressure in the services business
- Merger of Creos Deutschland Stromnetz GmbH and strategic development of the electricity grid, e.g. through new network connections

### What are the future challenges in your business and how are you prepared to meet them?

**J.A.:** Besides the daily challenges to guarantee the safe operation of the energy grids, Creos Gruppe Deutschland is facing central and strategic challenges for its successful and sustainable continuation:

- Digitization in general
- Higher level of complexity caused by a growing number of rules, regulations and new framework conditions
- Cost pressure due to decreasing capital cost rates in the equity yield rate, along with further tightening by the regulatory authority and the potential reduction of the transported gas volume (decarbonization)

The most important requirement to meet these challenges is an excellent team with multiple skills and abilities seeking perfection. In order to maintain a complete overview, it will be necessary to master the increasing complexity through increasing specialization. Therefore, we are also exploring new management methods, e.g. around agile project management and scrum processes.

Creos Deutschland Holding GmbH is a 96.88%-owned subsidiary of Creos Luxembourg S.A. and the sole shareholder in Creos Deutschland GmbH, Creos Deutschland Stromnetz GmbH and Creos Deutschland Services GmbH. Creos Deutschland Group operates a medium and high voltage electricity grid with 450 km and carries natural gas on a high-pressure grid with 1,650 km in length in Germany's Saarland and Rhineland-Palatinate regions, supplying natural gas to numerous industrial clients, power station operators and municipal utilities (Stadtwerke), and 2 million individuals.

## Key figures\*

		2018	2017
Volume transported natural gas	(GWh)	31,389	28,991
Electricity flow	(GWh)	742.5	739.2
Net turnover	(MEUR)	123.5	122.4
EBITDA	(MEUR)	28.4	31.1
EBIT	(MEUR)	18.7	22.3
Profit for the financial year	(MEUR)	8.4	13.2
Investment	(MEUR)	20.4	33.4**
Workforce	(number)	145	140

\* Pro-forma consolidation of the German Creos companies

\*\* including acquisition of the STEAG GmbH electricity network

# Equity interests

## Luxmetering

Luxmetering is an economic interest grouping (EIG) created in 2012 by Luxembourg's seven electricity and gas network administrators: Creos Luxembourg, Ville d'Ettelbruck, Ville de Diekirch, Hoffmann Frères (Electris), Ville de Dudelange, Sudstrom and Sudgaz. Luxmetering focuses on commissioning and operating a new IT platform that manages the metering data of the smart meters.

## Balansys

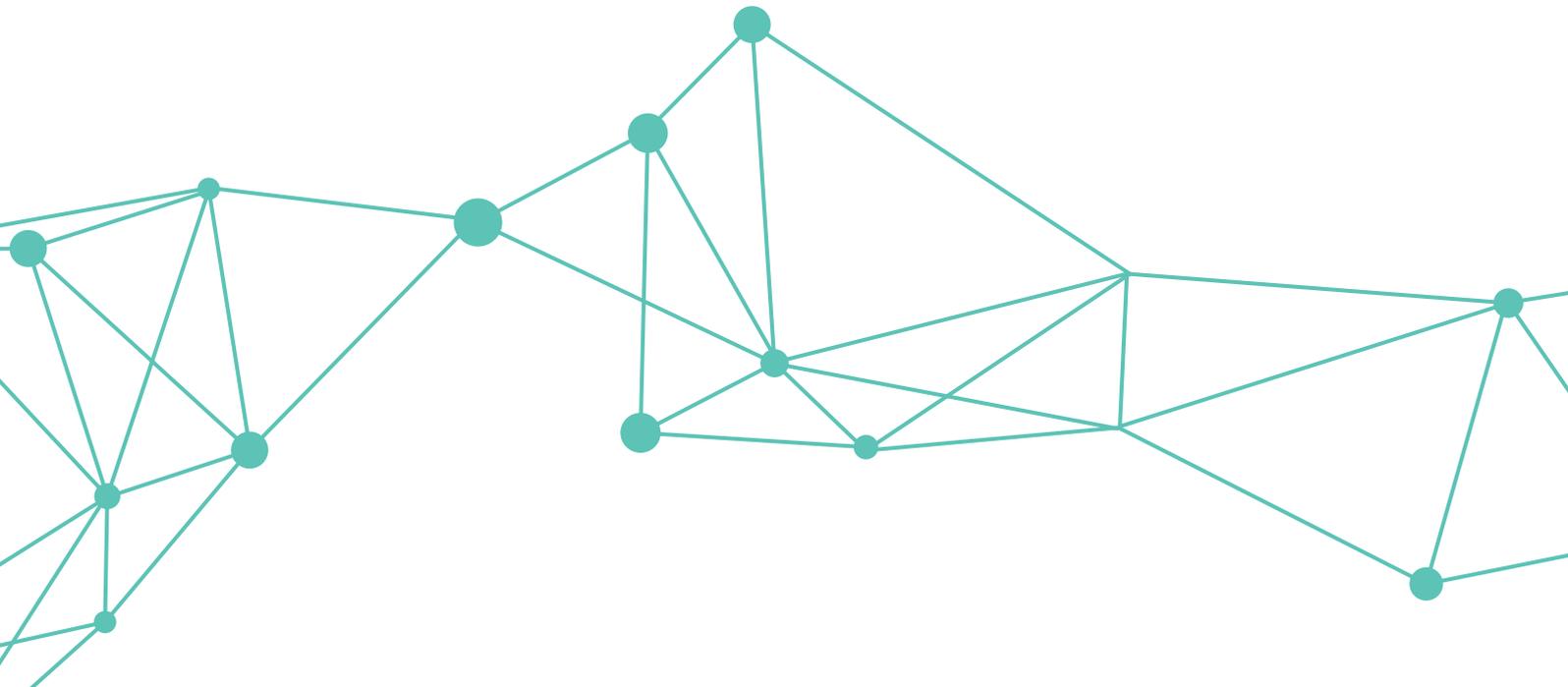
Balansys S.A. was formed in 2015 for the integration of the Luxembourg gas market and the Belgian gas market. The two network administrators, Creos Luxembourg S.A. and Fluxys Belgium, hold equal shares in Balansys, which is responsible for applying the rules and balancing tariffs in the integrated Belgium- Luxembourg zone.

## Ampacimon

Ampacimon S.A. is a company formed in 2010 by researchers from the University of Liège. Its activity is to develop and market Dynamic Line Rating (DLR), an innovative system of stand-alone sensors which makes it possible to forecast the true capacity of high-voltage transmission lines.

## NEXXTLAB

NEXXTLAB aims to develop innovative solutions in the field of EM2 (energy management in relation to the mass introduction of electric mobility). Founded by Creos Luxembourg S.A. and Powerdale S.A. in 2018, NEXXTLAB is an open entity that focuses on collaboration with research centres, universities and partner companies.





# Partnerships

## Forum pour l'emploi

With the installation of new smart meters, Creos is also internalizing the circular economy. Creos has decided to support the non-profit organization Forum pour l'Emploi to dismantle old electric meters, facilitating resale and reuse of materials such as copper, brass, aluminium, iron and plastic. This partnership meets two main objectives, one social, as it provides work for people currently unemployed, the other environmental, by facilitating the recycling of raw materials.

## Skoda Tour de Luxembourg

Creos pursues a policy of social responsibility by encouraging projects for talented young people at various levels. Thus, it sponsors the jersey of the "best young rider" in the Skoda Tour de Luxembourg, a national cycling race held in stages.

## natur&ëmwelt / Hëllef fir d'Natur foundation

The natur&ëmwelt association aims to preserve biodiversity in a varied natural and cultural landscape by raising awareness, providing advice and through practical, scientific and political activities at local, national and international level. As a long-term partner, Creos funds the publication of a pocket guide each year.

## FEDIL

Creos is partner of the traditional New Year's reception of FEDIL members, positioning itself in the field of corporate events. This symbolic reception has brought together executives from the corporate and industrial FEDIL member companies and political decision-makers since 1999.

## Da Vinci non-profit association – Wëssensatelier

Since 2015, Creos has supported the Wëssensatelier's activities of the Da Vinci association, bringing together engineers, architects, scientists and business representatives. The Wëssensatelier aims to inspire young people aged 8 to 12 to take an interest in technology through creative, fun and innovative activities and to encourage them to consider education in the field of science.



## Luxembourg Science Center

Creos is a partner of the Luxembourg Science Center and has funded the construction of a Helmholtz-type electromagnet which will become one of the main experimental facilities at this new temple of science and technology which has twin goals – enabling the general public to discover scientific phenomena and encouraging young people to pursue careers in the fields of maths, chemistry, physics, biology and astronomy.

## Luxembourg Foundation of Engineering, Architecture and Industry (FLIAI)

Creos supports FLIAI to promote the sciences, applied sciences and industrial values.

## OTM Haiti

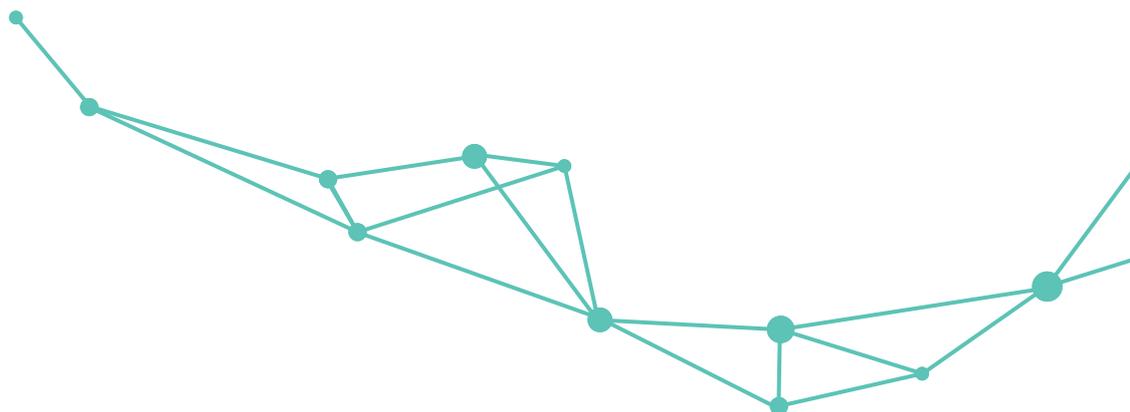
Creos is also committed to activities abroad. After the earthquake in 2010 in Haiti, Creos decided to support an electrification project in the Café Lompré region. By joining forces with Objectif Tiers Monde (OTM), Creos found a professional, effective partner which has worked exclusively in Haiti since 1985. Today, Creos maintains its commitment by providing cable and electrical supplies. Every year, a team of volunteers arrives on site to make their services available to this rural community.

## Student associations

Creos actively supports a number of student associations in Luxembourg in the field of science and engineering. In this way, Creos helps to promote industrial careers amongst students in Luxembourg and also aims to position itself as an attractive employer for young graduates in the sector. In 2018, REEL (Réunion Européenne des Etudiants Luxembourgeois) and ANEIL (Association Nationale des Etudiants Ingénieurs Luxembourgeois) received financial support from Creos.

## Donations

For a number of years, Creos has been making donations to charitable and public-interest organizations instead of providing traditional gifts at the end of the year. In 2018, the association Blêtz and the foundation APEMH each received a cheque in the amount of €5,000.





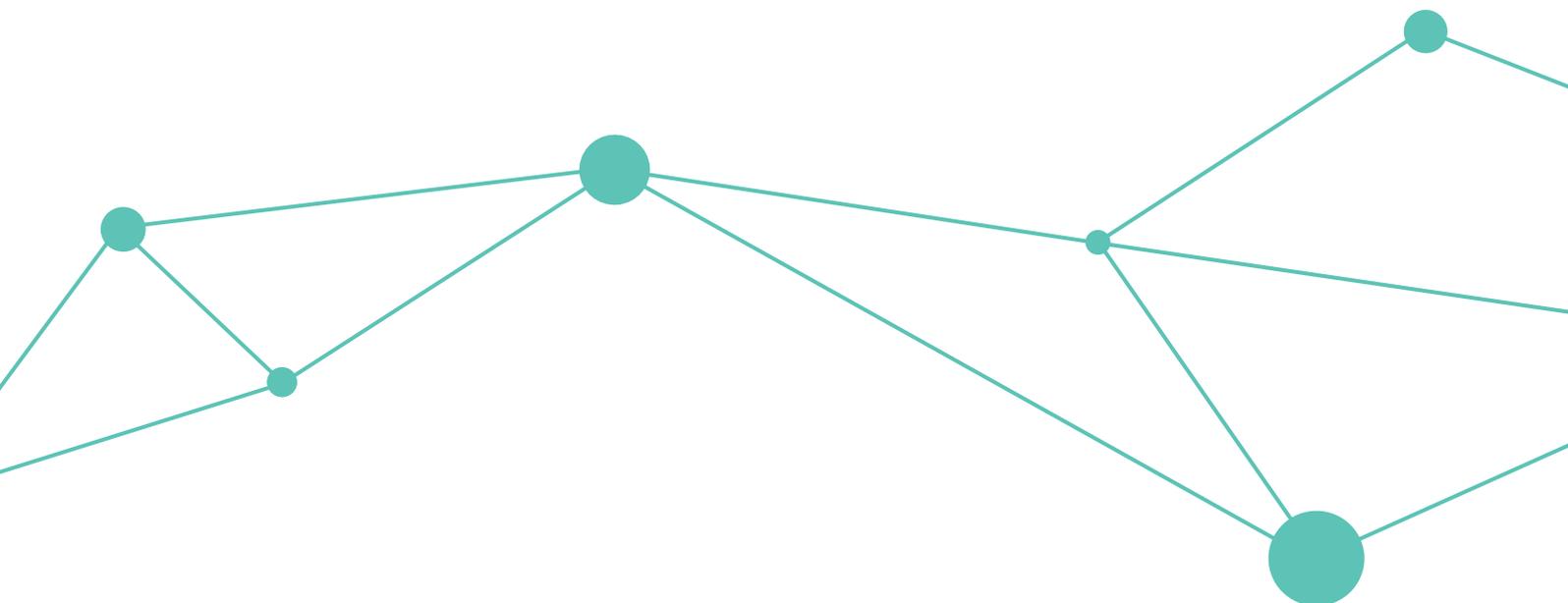
# Corporate social responsibility (CSR)

In 2018, having implemented recommendations and suggestions from independent experts, Creos's "Socially Responsible Enterprise – ESR" label was renewed. The ESR label reviews each company's sustainable development strategy and governance as well as the social and environmental impacts of its activities. The label was officially awarded to the main entities of Encevo Group during a ceremony organized by the National Institute for Sustainable Development and Corporate Social Responsibility (INDR) on 30 November 2018.

The renewal of this label is a public acknowledgment of the continued good practices of the group companies in the field of corporate social responsibility. Creos was awarded the ESR label for the first time back in 2015. In order to renew the label, the group evaluated its performance on 126 questions linked to the four pillars of the CSR concept: CSR strategy, governance, social and environmental. The evaluation was verified and accepted by an INDR-approved expert.

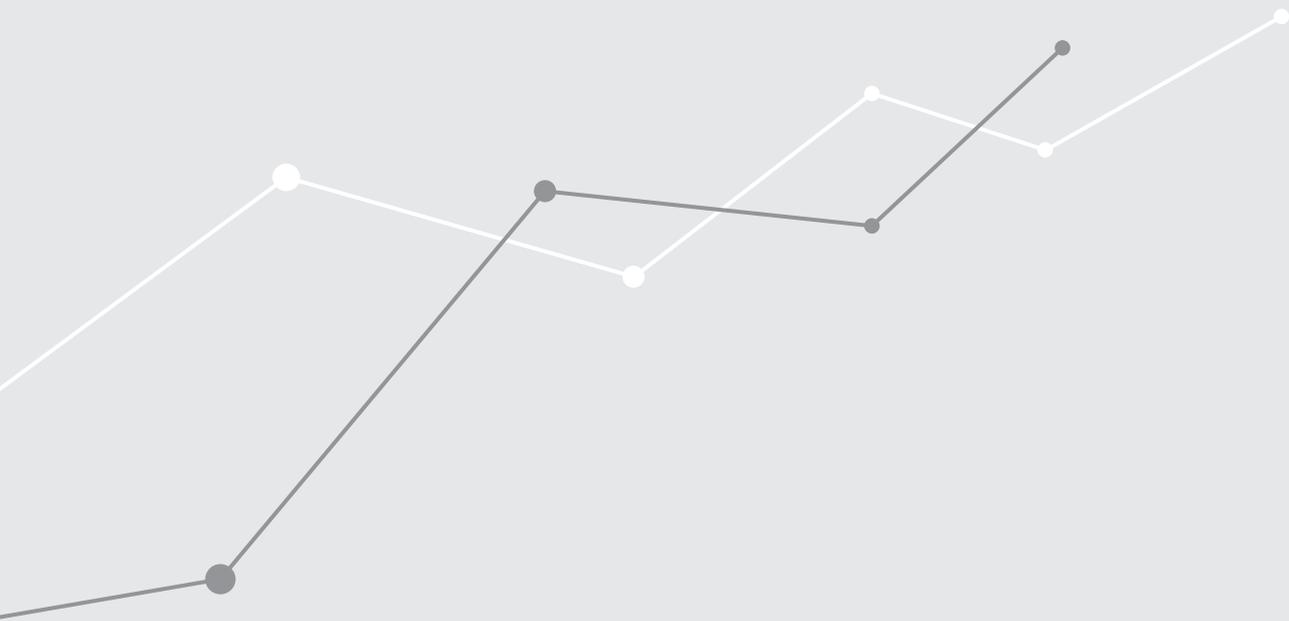
Thanks to its responsible conduct, Creos creates value both for itself and its employees. In doing so, it supports the 17 United Nations goals for sustainable development. The progressive deployment of 800 charging stations for electric vehicles and the installation of smart meters to make grids smarter in preparation for the third industrial revolution are only some of the company's sustainable initiatives.

Further details on our comprehensive CSR programme as well as our CSR KPIs can be found in the Encevo Annual Report.





# 3. Management report of the Board and annual accounts



# ● Management report of the Board

The general framework for the organization of the energy markets has been defined within the third European energy package. Its transposition to the context of Luxembourg is more precisely defined by the amended laws on electricity and gas markets dated 1 August 2007, as amended by the law of 7 August 2012.

The main principle is a strict separation between the energy grid infrastructure management and other activities such as the production, sale, purchase and trading of energy. Within Encevo Group, Creos Luxembourg S.A. (hereinafter referred to as “Creos”) owns the energy grids and is in charge of all the related activities, i.e. planning, building, operating and maintaining gas and power networks. Alongside these regulated activities, the company also delivers some non-regulated services to third parties.

## Regulation and non-discrimination

Network access is organized and supervised by a regulator, the Luxembourg Institute of Regulation (ILR). The regulator’s primary task is to ensure the non-discriminatory access and use of energy grid infrastructure, as well as effective competition and the efficient operation of the markets.

In particular, the regulator approves the tariffs proposed annually by the grid operators which all users of the energy networks have to pay. The six main activities of Creos (which account for most of its turnover) are all regulated activities and are invoiced in grid tariffs: transport of electricity (TSO power), transport of gas (TSO gas), distribution of electricity (DSO power), distribution of gas (DSO gas), as well as metering for both electricity and gas.

As required by law, Creos has established a programme encompassing the appropriate measures to rule out any discriminatory practices in the treatment of different network users. The programme and its annual monitoring are outlined on the website [www.creos.net](http://www.creos.net).

Since 1 January 2017, the second regulation period, which will run for four years up to and including 2020, has been in force. According to the ILR regulations E/16/12 (electricity), E/16/13 (gas) dated 13 April 2016 and E16/14 (smart metering) dated 14

April 2016, the capital remuneration rate applied to investments has been reduced to 6.12% (vs 7.60% in the first regulation period applicable until 2016). In conjunction with a regulatory annual efficiency factor that determines the controllable operating costs allowed in grid tariffs, this is creating a growing challenge for the company to continue delivering high standards in terms of quality of service and puts pressure on its profitability.

Detailed information on the applicable regulation as well as the tariffs approved for Creos is available at [www.ilr.lu](http://www.ilr.lu).

## Highlights of 2018

A safe and reliable energy transport and distribution infrastructure is a key element in guaranteeing the well-being of citizens and the sustainable development of a country’s economy. That is why security of supply remains the top priority for Creos and why Creos continues to invest heavily in its power and gas networks in order to be able to meet future energy demand requirements, to accommodate the development of renewable energies and to prepare for innovative consumer trends such as electro-mobility, distributed storage and power-only buildings, etc.

2018 saw Creos invest a record amount of EUR 132 million. This large investment programme was driven in particular by expenditure on building the new corporate headquarters together with the new technical centre for Luxembourg City and the start of construction of a new network operating centre in Bettembourg, which are set to begin operation in late 2020. The expansion and replacement of the high and medium-voltage power grid and the medium-pressure gas grid, as well as the continued deployment of smart meters, also led to very high capital expenditure. Furthermore, the company pressed ahead in the fields of electro-mobility and smart metering/grid, a process which will continue apace in the coming years.

Besides the core business’s ordinary activities, Creos increasingly focused on new development, either through technological evolution or by means of political endeavours. In this context, the company addressed subjects like digitalization, decentralized power generation and flexibility schemes,



the electrification of transport and buildings, the future of gas grid demand and infrastructure.

A particular highlight of note in 2018 was the appointment of Mr Marc Reiffers as new CEO of Creos Luxembourg S.A. as of 15 September 2018

### Power

With 5,100 additional power connections in 2018, the number of active electric meters in the Creos grid climbed to 281,470. In total, 5,121 GWh was transported through the network, which runs to 9,925 km.

Besides reinforcing its own national grid, Creos has remained highly active at the European level by working together with the adjacent transmission system operators (TSOs) in order to drive forward regional market integration and to create new connections between adjacent markets. In close collaboration with its neighbouring networks Elia and Amprion, Creos successfully opened a new power interconnection to Belgium by putting into operation a PST (phase shifting transformer) to control flows between the Belgian and German balancing zones. For the time being, this interconnector will not be commercialized in the flow-based market coupling as the economical benefits of the whole region are limited. The line will contribute to the bi-directional security-of-supply requirements that are embedded in the more global design of the Central-West Europe region.

2018 was also marked by the final discussions and drafting of a new legislative package at the EU level (Clean Energy Package) which will, as of 2019, affect the entire power sector value chain. Creos has been actively involved in various international organizations that are following this legislative process and evaluating all the possible influences on the core business. The main subjects of concern given the potential changes to traditional business models are: the creation of an EU distribution system operator (DSO) entity; energy communities as a new kind of market player; "prosumers" (grid users as both customer and producer); the variable use of grid infrastructure; the management of decentralized flexibility potential. The new legislative concepts are expected to focus on the need for close monitoring of low and medium voltage distribution infrastructure.

### Natural gas

With 660 additional gas connections in 2018, the number of active natural gas meters in the Creos grid reached 47,000. In total, 8,834 GWh was transported through the grid, which runs to 2,110 km.

In close collaboration with Luxembourg's regulatory authority (ILR) and Belgium's Regulatory Commission for Electricity and Gas (CREG), Creos Luxembourg and Fluxys Belgium launched in 2015 the integrated Belgian-Luxembourg gas market, the first market integration of its kind between two EU member states and established a new jointly owned (50/50) company called Balansys, which is responsible for the full operation of the balancing activities in the integrated market. The approval of the Balansys compliance programme, which was submitted to the European regulatory authority ACER in January 2018 and which will allow Balansys to launch operations for the whole BeLux region, is still pending.

The ordinary activities of the gas departments registered a particularly strong winter period in February/March 2018 without any noteworthy incidents. The investment to replace existing networks, in particular the medium pressure grid in the City of Luxembourg, remained high, and the distribution grid was extended in some districts.

### Electro-mobility

In 2016 Creos, together with the other DSOs, started a joint e-mobility project branded "Chargy" to deploy 800 charging stations (741 for Creos) for electric cars by 2020. Beyond the mission to build, operate and maintain the charging stations, the DSOs are also responsible for the installation, operation and maintenance of a shared system to provide all the necessary information and services to electric car customers and provide widespread availability of non-discriminatory supplier access. By the end of 2018, a total of 245 charging stations (490 charging points) were installed and operational in the national system.

In the domain of public transport, Creos delivered the dedicated power connection for, and entered into technical partnership with, the Luxembourg City tram project. In light of new developments from the national railway company as well as increasing demand from

several bus operators for dedicated connections of their bus loading stations, Creos was involved in extensive consultations on how to enable a progressive shift towards the 100% electrification of public transport in Luxembourg.

### Metering

In the context of the legally prescribed installation of smart meters, 2018 saw Creos roll out the impressive total of 105,000 smart power meters and 17,400 smart gas meters, as well as nearly 2,000 devices to ensure communication between the meters and headquarters for the monitoring and read-out procedures.

New functionalities were implemented in relation to electronic market communication ("MaCo") between the DSOs and the suppliers. The Market Communication digitization project will need to continue over the next few years in order to adapt to new market demands and integrate an increasing number of small and distributed power generation units.

### Various

In 2018, Creos began construction of its new national control (Dispatching) centre in Bettembourg. The centre will meet the latest technology standards and comprise separated dispatching premises for HV power, MV power and HP/MP gas as well as a network operation centre.

Creos is progressively reorganizing all its front-end processes to improve its customer experience and service standards from general information to connection processes, meter data reading and grid incident communication as well as advisory services (decentralized generation, energy savings, etc.). This programme will be supported by a new customer relationship software package including a customer web portal, with initial implementation set to be in place by the end of 2019.

In light of the ever-increasing complexity in information technology, Encevo Group decided in 2018 to transfer the majority of its IT activities from the Group IT department of Encevo S.A. to Creos Luxembourg S.A. with effect as of 1 January 2019. As a consequence, the commercial units of Encevo Group will progressively develop their own independent technologies, whereas the Creos IT department will deliver IT services to Encevo group companies in several general areas such as finance, accounting and human resources. The redesign of its IT environment should allow Creos to focus on its own technological challenges as it moves towards becoming an integrated digitalized company. The transfer of IT activities from Encevo to Creos will raise the Creos headcount by approximately 50 FTE as of 1 January 2019.

### Personnel

The number of employees (FTE) increased from 684 at year-end 2017 to 686 at year-end 2018.

The Board of Directors and the management of Creos Luxembourg S.A. would like to thank all employees for carrying out their duties, their contribution throughout the year and their full support in ensuring the reliability and strength of the company's core activities.

## Financial results of Creos Luxembourg S.A.

### Summary of the annual accounts (according to Lux GAAP standards)

#### Profit and loss account

**Net turnover** came in at EUR 263,730,891 in 2018 (EUR 243,740,485 in 2017). The increase in net turnover (see Note 16) was mainly due to the rise in allowed revenues in grid tariffs resulting from high investment in the grids.

**Operating profit (EBITDA)** totalled EUR 128,854,297 in 2018 (EUR 122,281,608 in 2017) thanks to increased revenues and the capitalization of costs, though this was partially offset by an increase in operating expenses.

**Net profit for the financial year** ran to EUR 36,239,336 (EUR 40,897,787 in 2017). This figure includes a dividend received from Creos Deutschland Holding of EUR 6,006,275 (EUR 6,781,278 in 2017).

#### Balance sheet

There has been no change in the company's subscribed capital since the extraordinary meeting of shareholders held on 6 January 2011, which approved the incorporation of the gas and electricity networks of the City of Luxembourg into Creos Luxembourg S.A. via the issue of new shares. The subscribed capital amounts to EUR 198,851,260 and the share premium to EUR 189,562,253.

Pursuant to a merger of municipalities and in accordance with the company's articles of association and a resolution of the General Assembly dated 8 May 2012, Creos Luxembourg S.A. bought back 5,045 of its own shares from Schengen municipality for an amount of EUR 469,595. The shares have been recorded as current assets (see annual report Note 10). A blocked reserve for the same amount has been designated pursuant to the law on commercial companies.

The Board of Directors approved a new loan agreement with Encevo S.A. of EUR 134,304,000 in order to finance the Company's sustainable ("green") investment programme, as well as the re-imbursement of existing loans of EUR 94,304,000 (see annual report Note 14).

#### Proposed appropriation of net profit

The profit available for appropriation of EUR 51,728,166 includes the net profit for the year of EUR 36,239,336, the reversal of the blocked reserve (wealth tax) of EUR 11,350,000 and the profit brought forward of EUR 4,138,830.

The Board of Directors proposes to the annual shareholder's meeting to be held on 14 May 2019 the following appropriation of net profit:

Dividend of EUR 3 per share*	29,812,554
Allocation to the legal reserve (5% of net profit until 10% of subscribed capital)	0
Allocation to the blocked reserve (wealth tax)	13,110,000
Allocation to other reserve	5,000,000
Amount carried forward	3,805,612
<b>Total</b>	<b>51,728,166</b>

\* Number of shares 9,937,518 (total shares issued of 9,942,563 minus 5,045 own shares)

#### Compliance and risk management

There were no compliance incidents to be reported in 2018.

The main risks the company has to manage are accidents involving people (in-house and third parties) and network damage due to certain climatic events. Whereas the number of accidents (travelling and at work) fell to its lowest rate in the last five years, the number and impact of grid incidents remained constant, which means that Creos remains one of the best performing grid operators in Europe.

Creos continuously implements active risk management processes supported by a reporting tool to assess, record, review and monitor mitigations for identified operational, financial, legal or strategic risks. The Creos Management Committee reviews risk reporting bi-annually.

## Outlook

In 2019 and 2020, Creos plans to make record investments into its grid infrastructure, buildings and IT, further increasing its regulated asset base. The ambitious programmes reflect the company's efforts to successfully realize its transition towards an intelligent, flexible and progressively decentralized power grid system that will respond to the country's future energy market design.

At this stage, the company does not foresee any technical or financial events that are likely to impact its economic or financial situation

## Other information

No research and development activities have been performed during the year.

The company holds own shares.

The company doesn't operate any branches.

## Changes in 2018 in the Board of Directors of Creos Luxembourg S.A.

To replace Mr Eric Bosman, who had resigned as of 21 February 2018, the Board of Directors co-opted as of 29 March 2018, and the ordinary general meeting of shareholders held on 8 May 2018 appointed, Mr Gaston Bohnenberger as director of the company for the outstanding term of his predecessor's mandate to end in 2020 with the ordinary general meeting of shareholders to approve the annual report of the financial year 2019.

The ordinary general meeting of shareholders, held on 8 May 2018, resolved to confirm Mr Jean Schiltz as director for a new mandate to end in 2021 with the ordinary general meeting of shareholders to approve the annual report of the financial year 2020.

The ordinary general meeting of shareholders, held on 8 May 2018, resolved to confirm Mr Marco Walentiny as director for a new mandate to end in 2024 with the ordinary general meeting of shareholders to approve the annual report of the financial year 2023.

To replace Mr Michel Birel, who had resigned as of 30 April 2018, the Board of Directors co-opted as of 21 June 2018 Mrs Doris Engel as director of the company for the outstanding term of her predecessor's mandate to end in 2020 with the ordinary general meeting of shareholders to approve the annual report of the financial year 2019.

In its meeting of 21 June 2018, the Board of Directors acknowledged the resignation of Mrs Sasha Baillie as director of the company.

In its meeting of 21 June 2018, the Board of Directors acknowledged the resignation of Mr Claude Seywert as director of the company with effect on 15 September 2018. In the same meeting, the

Board of Directors co-opted Mr Marc Reiffers as director of the company for the outstanding term of his predecessor's mandate to end in 2020 with the ordinary general meeting of shareholders to approve the annual report of the financial year 2019.

In its meeting of 10 December 2018, the Board of Directors acknowledged the resignation of Mr Georges Biver with effect on 16 October 2018, as well as the resignations of Mr Benoît Gaillochet and AXA Redilion ManagementCo S.C.A., permanently represented by Mr Michael Reuther, on 18 October 2018. In the same meeting, the Board of Directors co-opted Mrs Li Sun, Mr Paul Poon and Mr Jingqiang Sun as new directors for the company for the outstanding term of their predecessors' mandates to end in 2020 with the ordinary general meeting of shareholders to approve the annual report of the financial year 2019.

As well on 10 December 2018, the Board of Directors appointed Mrs Li Sun as its new Vice-Chairman to succeed Mr Benoît Gaillochet in this position.

In its meeting of 10 December 2018, the Board of Directors acknowledged the resignation of Mrs Paulette Lenert as director of the company.

In its meeting of 10 December 2018, the Board of Directors appointed Mr Jean-Paul Wagner as the new corporate secretary of the Board of Directors.

The annual general meeting of shareholders, to be held on 14 May 2019, is invited to confirm the provisional nominations of Mrs Doris Engel, Mr Marc Reiffers, Mrs Li Sun, Mr Paul Poon and Mr Jingqiang Sun.



## Auditor

The ordinary general meeting of shareholders, held on 8 May 2018, appointed Ernst & Young as the company's external independent statutory auditor for the financial years 2018, 2019 and 2020.

Luxembourg, 28 March 2019  
The Board of Directors

# Annual accounts

## Balance sheet as at 31 December 2018

ASSETS	Notes	2018	2017
		EUR	EUR
<b>Fixed assets</b>		<b>919,743,478</b>	880,576,262
Intangible assets	Note 4		
Concessions, patents, licences, trade marks and similar rights and assets, if they were			
a) acquired for valuable consideration		<b>12,453,588</b>	15,764,026
Payments on account and intangible fixed assets under development		<b>732,518</b>	743,165
Tangible assets	Note 5		
Land and buildings		<b>117,138,261</b>	114,370,909
Plant and machinery		<b>630,121,862</b>	589,797,090
Other fixtures and fittings, tools and equipment		<b>17,685,615</b>	18,159,367
Payments on account and tangible assets in the course of construction		<b>96,706,783</b>	97,406,854
Financial assets	Note 6		
Shares in affiliated undertakings		<b>42,000,000</b>	42,000,000
Participating interests		<b>2,484,851</b>	1,984,851
Loans to undertakings with which the undertaking is linked by virtue of participating interests		<b>420,000</b>	350,000
<b>Current assets</b>		<b>96,227,992</b>	99,902,736
Stocks			
Raw materials and consumables		<b>11,273,426</b>	9,215,216
Work in progress		<b>12,047,769</b>	14,317,311
Payments on account		<b>757,095</b>	720,326
Debtors			
Trade debtors	Note 7		
a) becoming due and payable within one year		<b>15,553,435</b>	15,111,519
Amounts owed by affiliated undertakings			
a) becoming due and payable within one year	Note 8	<b>18,066,386</b>	36,576,172
Amounts owed by undertakings with which the undertaking is linked by virtue of participating interests			
a) becoming due and payable within one year		<b>129,989</b>	506,369
Other debtors			
a) becoming due and payable within one year	Note 9	<b>36,832,485</b>	22,254,869
Investments			
Own shares	Note 10	<b>469,595</b>	469,595
Cash at bank and in hand		<b>1,097,812</b>	731,359
Prepayments	Note 11	<b>9,288,729</b>	7,841,663
<b>TOTAL ASSETS</b>		<b>1,025,260,199</b>	988,320,661

The accompanying notes form an integral part of the annual accounts

<b>CAPITAL, RESERVES AND LIABILITIES</b>	Notes	<b>2018</b>	2017
		EUR	EUR
<b>Capital and reserves</b>	Note 12	<b>679,988,840</b>	672,060,104
Subscribed capital		<b>198,851,260</b>	198,851,260
Share premium account		<b>189,562,253</b>	189,562,253
Reserves			
Legal reserve		<b>19,885,126</b>	19,885,126
Reserve for own shares		<b>469,595</b>	469,595
Other reserves, including the fair value reserve			
a) other available reserves		<b>164,805,486</b>	154,805,486
b) other non available reserves		<b>66,036,954</b>	63,765,000
Profit or loss brought forward		<b>4,138,830</b>	3,823,597
Profit or loss for the financial year		<b>36,239,336</b>	40,897,787
<b>Provisions</b>		<b>42,924,509</b>	39,506,822
Provisions for pensions and similar obligations	Note 13.1.	<b>31,220,776</b>	32,093,791
Other provisions	Note 13.2.	<b>11,703,733</b>	7,413,031
<b>Creditors</b>		<b>269,105,379</b>	251,388,882
Amounts owed to credit institutions			
a) becoming due and payable within one year		<b>129,086</b>	32
Payments received on account of orders as far as they are shown separately as deductions from stocks			
a) becoming due and payable within one year		<b>11,098,111</b>	13,054,081
Trade creditors			
a) becoming due and payable within one year		<b>36,931,309</b>	34,656,627
Amounts owed to affiliated undertakings			
a) becoming due and payable within one year	Note 14	<b>6,670,978</b>	61,196,941
b) becoming due and payable after more than one year	Note 14	<b>202,000,000</b>	132,000,000
Amounts owed to undertakings with which the undertaking is linked by virtue of participating interests			
a) becoming due and payable within one year		<b>516,817</b>	831,189
Other creditors			
a) Tax authorities	Note 15.1.	<b>7,233,305</b>	5,150,394
b) Social security authorities		<b>2,853,595</b>	2,589,854
c) Other creditors			
i) becoming due and payable within one year	Note 15.2.	<b>1,672,178</b>	1,909,764
<b>Deferred income</b>	Note 11	<b>33,241,471</b>	25,364,853
<b>TOTAL CAPITAL, RESERVES AND LIABILITIES</b>		<b>1,025,260,199</b>	988,320,661

## Profit and loss account for the year ended 31 December 2018

	Notes	2018	2017
		EUR	EUR
1. Net turnover	Note 16	<b>263,730,891</b>	243,740,485
3. Work performed by the undertaking for its own purpose and capitalised	Note 17	<b>36,074,701</b>	34,937,745
4. Other operating income		<b>1,411,523</b>	1,428,288
5. Raw materials and consumables and other external expenses			
a) Raw materials and consumables		<b>(53,236,531)</b>	(43,424,278)
b) Other external expenses		<b>(52,151,198)</b>	(44,563,364)
6. Staff costs	Note 18		
a) Wages and salaries		<b>(59,045,038)</b>	(59,245,267)
b) Social security costs			
i) relating to pensions		<b>(4,056,187)</b>	(3,753,283)
ii) other social security costs		<b>(2,721,312)</b>	(2,590,368)
c) Other staff costs		<b>(1,018,006)</b>	(4,238,231)
7. Value adjustments			
a) in respect of formation expenses and of tangible and intangible fixed assets	Notes 4, 5	<b>(93,002,041)</b>	(82,287,411)
b) in respect of current assets		<b>(134,547)</b>	(10,119)
9. Income from participating interests	Note 19		
a) derived from affiliated undertakings		<b>6,006,275</b>	6,781,278
11. Other interest receivable and similar income			
b) other interested and similar income		<b>35,961</b>	20,832
13. Value adjustments in respect of financial assets and of investments held as current assets	Note 6	<b>313</b>	(100,000)
14. Interest payable and similar expenses			
a) concerning affiliated undertakings		<b>(3,177,917)</b>	(2,507,885)
b) other interest and similar expenses		<b>(13,178)</b>	(18,535)
15. Tax on profit or loss	Note 15.1	<b>(2,432,273)</b>	(3,240,000)
16. Profit or loss after taxation		<b>36,271,436</b>	40,929,887
17. Other taxes not shown under items 1 to 16		<b>(32,100)</b>	(32,100)
18. Profit or loss for the financial year		<b>36,239,336</b>	40,897,787

The accompanying notes form an integral part of the annual accounts



## Notes to the annual accounts

### Note 1 – General information

Creos Luxembourg S.A. (“the Company”) was incorporated in Luxembourg under the name of Cegedel S.A. on 27 March 1928. The Company is registered under RCS nr. B4513 as a “société anonyme” for an unlimited period. In the context of the below described operations, the Company has been renamed Creos Luxembourg S.A. in 2009.

Following a business combination in 2009 of the grid activities of Cegedel S.A. and Soteg S.A., the integration of the grid activities of Luxgaz Distribution S.A. in 2010 and the integration of the grid activities of the City of Luxembourg in 2011, the main activities of Creos Luxembourg S.A. are to operate in Luxembourg electricity and gas transport and distribution networks. Creos Luxembourg S.A. holds a 96.88% participation in Creos Deutschland Holding GmbH, which owns a 100% participation in Creos Deutschland GmbH, a result of the merger in 2009 of Saar Ferngas Transport GmbH in Germany with the network activities of Saar Ferngas AG, as well as 100% participation in Creos Deutschland Netz GmbH, formerly STEAG Netz GmbH, acquired in 2017.

The registered office of the Company is established in Luxembourg.

The regulated activities are under the supervision of a regulator, namely the “Institut Luxembourgeois de Régulation” (“ILR”).

#### Annual accounts

The Company’s financial year runs from 1 January to 31 December each year. Creos Luxembourg S.A. accounts are consolidated into the annual accounts of its main shareholder Encevo S.A., forming at once the largest and the smallest body of undertaking of which the Company forms a part as a subsidiary undertaking. Encevo S.A. is established in 2, Domaine du Schlassgoard, L-4327 Esch-sur-Alzette, Luxembourg RCS nr. B11723. The consolidated accounts are available at this address.

### Note 2 – Authorisations

Following the two European directives 2009/72 and 73 of 13 July 2009 concerning common rules for the internal markets in electricity and natural gas, and the laws that transposed these directives into national laws, namely the amended laws of 1 August 2007 regarding the organization of the electricity and natural gas markets, transport and distribution grid management activities have been legally separated from the other activities of generation and sale of electricity and gas.

### Note 3 – Summary of significant accounting policies

#### Basis of preparation

The annual accounts have been prepared in accordance with Luxembourg legal and regulatory requirements under the historical cost convention. Accounting policies and valuation rules are, besides the ones laid down by the amended Law of 19 December 2002, determined and applied by the Board of Directors.

The preparation of annual accounts requires the use of certain critical accounting estimates. It also requires the Board of Directors to exercise its judgment in the process of applying the accounting policies. Changes in assumptions may have a significant impact on the annual accounts in the period in which the assumptions changed. The Board of Directors believes that the underlying assumptions are appropriate and that the annual accounts therefore present the financial position and results fairly.

The Company makes estimates and assumptions that affect the reported amounts of assets and liabilities in the next financial year. Estimates and judgments are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

## Significant accounting policies

The main valuation rules applied by the Company are the following:

### Foreign currency translation

The Company maintains its books and records in EUR (€). Transactions expressed in currencies other than EUR are translated into EUR at the exchange rate effective at the time of the transaction. Formation expenses and long-term assets expressed in currencies other than EUR are translated into EUR at the exchange rate effective at the time of the transaction. At the balance sheet date, these assets remain translated at historical exchange rates.

Cash at bank is translated at the exchange rate effective at the balance sheet date, exchange losses and gains are recorded in the profit and loss account of the year.

Other assets and liabilities are translated separately respectively at the lower or at the higher of the value converted at the historical exchange rate or the value determined on the basis of the exchange rates effective at the balance sheet date. The unrealised exchange losses are recorded in the profit and loss account. The exchange gains are recorded in the profit and loss account at the moment of their realisation.

Where there is an economic link between an asset and a liability, these are valued in total according to the method described above and the net unrealised losses are recorded in the profit and loss account and the net unrealised exchange gains are not recognised.

### Intangible assets

Intangible assets are valued at purchase price including the expenses incidental thereto or at production cost, less cumulated depreciation amounts written off and value adjustments. Where the Company considers that an intangible asset has suffered a durable depreciation in value, an additional write-down is recorded to reflect this loss. These value adjustments are not continued if the reasons for which the value adjustments were made have ceased to apply. The depreciation method is straight-line and the duration three years.

Intangible assets under development are valued at cost, based on the direct costs of the Company, and are reviewed annually for impairment.

### Tangible assets

Tangible assets are recorded at their acquisition price including the expenses incidental thereto or at production costs. Tangible assets are depreciated over their estimated useful economic lives.

*Value adjustments for electricity assets are made in accordance with the following principles:*

- Plant and equipment that are part of the grid: depreciation using the declining-balance method based on coefficients equal to double those laid down in Article 30 of the Concession Agreement of 11 November 1927 and in the Agreement of 8 September 1998 for investments completed before 1990, and to triple for investments completed thereafter.
- Buildings: straight-line depreciation (over 50 years for structural work and 3 to 10 years for internal and external equipment).
- Other equipment, machines and furniture: straight-line depreciation over three years in general.
- Fixed assets contributed by the City of Luxembourg or purchased from Echternach: straight-line depreciation, duration from four to forty years.

*Value adjustments for gas assets are made in accordance with the following principles:*

- Buildings, plant and equipment contributed by Luxgaz Distribution S.A. and by the City of Luxembourg: straight-line depreciation, duration from 4 to 25 years. The historical structural assets of the buildings had a duration from 33 to 50 years.
- The tangible assets bought since 2010 by Creos Luxembourg S.A. are depreciated using the declining-balance method, based on coefficients equal to triple to linear and a duration from 3 to 25 years.

When a part of grid assets has to be replaced and cannot be separately identified, no disposal of assets is accounted for and the replaced assets continue to be depreciated with normal rates. This accounting principle has been agreed with the regulator for the determination of grid tariffs.



Where the Company considers that a tangible asset has suffered a durable depreciation in value, an additional write-down is recorded to reflect this loss. These value adjustments are not continued if the reasons for which the value adjustments were made have ceased to apply.

Tangible assets under development are valued at cost, based on the direct costs of the Company, and are reviewed annually for impairment.

### **Fixed assets developed by the Company itself**

The costs incurred on fixed assets under development created by the Company itself are recorded in the profit and loss account. As of year-end, those costs are recorded under caption "Work performed by the undertaking for its own purposes and capitalised" and are transferred at balance sheet date to the appropriate balance sheet caption.

### **Financial assets**

Shares in affiliated undertakings and participating interests are recorded in the balance sheet at their acquisition cost including the expenses incidental thereto. Loans to affiliated undertakings and loans to undertakings with which the undertaking is linked by virtue of participating interests are included at their nominal value. In the case of an impairment that the Board of Directors considers as permanent in nature, value adjustments are made in respect to these long-term investments to apply the lower value to be assigned to them at the balance sheet date. These value adjustments are not maintained when the reasons for making them have ceased to exist.

### **Raw materials and consumables**

Raw materials and consumables are valued at the lower of purchase price calculated on the basis of weighted average cost or market value. Value adjustments are recorded when the estimated realisable value of stocks is lower than the weighted average cost. These value adjustments are not maintained if the reasons for recording them have ceased to exist.

### **Finished goods and work in progress**

Finished goods and work in progress are valued at the lower of production cost including the purchase price of the raw materials and consumables, the costs directly attributable to the product/contract in question and a proportion of the costs indirectly attributable to the product/contract in question, and market value. A value adjustment is recorded where the market value is below the production cost. These value adjustments are not continued if the reasons for which the value adjustments were made have ceased to apply.

### **Debtors**

Debtors are recorded at their nominal value. Value adjustments are recorded when there is a risk that all or part of the amounts concerned may not be recovered. These value adjustments are not maintained if the reasons for recording them have ceased to exist.

### **Investments**

Investments are valued at their purchase price, including expenses incidental thereto, expressed in the currency in which the annual accounts are prepared. A value adjustment is recorded where the market value is lower than the purchase price. These value adjustments are not continued if the reasons for which the value adjustments were made have ceased to apply.

The market value corresponds to the latest available quote on the valuation day for investments listed on a stock exchange or traded on another regulated market.

### **Prepayments**

This asset item includes expenditures incurred during the financial year but relating to a subsequent financial year.

### **Temporarily tax exempt capital gains**

Temporarily tax exempt capital gains include gains for which the taxation is deferred by virtue of Article 54 LIR (Income tax law). Such gains, which are rolled over, are recorded at their initial value. Reinvested gains are written off using the same method and over the same period as the assets to which they relate. This caption is disclosed under "Other non available reserves" on the balance sheet.

### **Provisions**

The aim of provisions is to cover clearly defined charges and liabilities which, on the balance sheet date, are either probable or certain but for which the amount or date of occurrence cannot be determined with certainty. A review is carried out at year-end to determine the provisions to be recorded for the Company's liabilities and charges. Provisions recorded in previous years are reviewed annually and those no longer needed are released.

Provisions may also be created to cover charges which originate in the financial year under review or in a previous financial year, the nature of which is clearly defined and which at the date of the balance sheet, are either likely to be incurred or certain to be incurred but uncertain as to their amount or the date on which they will arise.

### **Provisions for pensions and similar obligations**

The Company offers its employees a defined benefit plan and a defined contribution plan.

#### **Defined benefit plan**

A defined benefit plan defines an amount of pension benefit that an employee will receive on retirement, usually dependent on one or more factors such as age, years of service and compensation. The liability recognized in the balance sheet in respect of defined benefit pension plans is the present value of the defined benefit obligation at the balance sheet date. The defined benefit obligation is measured using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future payments by reference to the historical evolution of long term interest rates.

Actuarial gains and losses are charged or credited in the profit and loss in the period in which they arise.

Past-service costs are recognized immediately in the profit and loss account.

#### **Defined contribution plan**

A defined contribution plan is a pension plan under which the Company pays fixed contributions to a separate entity and has no legal or constructive obligations to pay further contributions if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods. Contributions paid are directly recorded in the profit and loss during the year they are paid. The commitment of the Company is limited to the contributions that the Company agreed to pay into the fund on behalf of its employees.

### **Creditors**

Creditors are recorded at their reimbursement value. Where the amount repayable on account is greater than the amount received, the difference is recorded in the profit and loss account when the debt is issued. All fixed costs related to setting up the facilities are depreciated over the duration of the loan.

### **Deferred income**

This item includes income received during the financial year or preceding years but relating to a subsequent financial year.

### **Net turnover**

Net turnover relates to transportation and distribution of electricity and gas provided as well as related activities as part of the Company's ordinary activities, net of discounts, value-added tax and other taxes directly linked to sales.

### Other operating income

Other operating income comprises all income only indirectly linked to normal business activities.

### Income from participating interests

Dividend income is recorded when dividends are paid.

## Note 4 – Intangible assets

Intangible assets comprise IT software licences and IT projects. Movements for the year were as follows:

	Concessions, patents, licences, trade marks and similar rights and assets	Payments on account and intangible assets under development	TOTAL 2018	TOTAL 2017
	EUR	EUR	EUR	EUR
Gross book value - opening balance	40,740,165	743,165	<b>41,483,330</b>	35,807,623
Additions for the year	21,250	3,263,118	<b>3,284,368</b>	5,675,707
Disposals for the year	0	0	<b>0</b>	0
Transfers for the year	3,273,765	(3,273,765)	<b>0</b>	0
Gross book value - closing balance	44,035,180	732,518	<b>44,767,698</b>	41,483,330
Accumulated value adjustments - opening balance	(24,976,139)	0	<b>(24,976,139)</b>	(20,807,331)
Allocations for the year	(6,605,453)	0	<b>(6,605,453)</b>	(4,168,808)
Reversals for the year	0	0	<b>0</b>	0
Accumulated value adjustments - closing balance	(31,581,592)	0	<b>(31,581,592)</b>	(24,976,139)
<b>Net book value - closing balance</b>	<b>12,453,588</b>	<b>732,518</b>	<b>13,186,106</b>	<b>16,507,191</b>

The transfers for the year of EUR 3,273,765 relate mainly to software investments required for the implementation of a standardised electronic market communication and smart meter systems.

## Note 5 – Tangible assets

Movements for the year were as follows:

	Land and buildings	Plant and machinery	Other fixtures and fittings, tools and equipment	Payments on account and tangible assets in the course of construction	TOTAL 2018	TOTAL 2019
	EUR	EUR	EUR	EUR	EUR	EUR
<b>Gross book value - opening balance</b>	148,349,155	1,600,146,455	72,689,821	97,406,854	<b>1,918,592,286</b>	1,807,937,719
Additions for the year	298,214	8,365,042	1,373,668	118,968,214	<b>129,005,138</b>	112,639,775
Capital gain						
Disposals for the year	(179,842)	(1,069,864)	(2,958,863)	(42,693)	<b>(4,251,262)</b>	(1,985,209)
Transfers for the year	6,460,878	111,640,941	1,523,774	(119,625,592)		
<b>Gross book value - closing balance</b>	154,928,405	1,719,082,574	72,628,400	96,706,783	<b>2,043,346,162</b>	1,918,592,285
<b>Accumulated value adjustments - opening balance</b>	(33,978,246)	(1,010,349,365)	(54,530,454)		<b>(1,098,858,065)</b>	(1,022,440,286)
Allocations for the year	(3,811,898)	(79,213,496)	(3,371,194)		<b>(86,396,588)</b>	(78,118,603)
Reversals for the year		602,149	2,958,863		<b>3,561,012</b>	1,700,824
Transfers for the year						
<b>Accumulated value adjustments - closing balance</b>	(37,790,144)	(1,088,960,712)	(54,942,785)		<b>(1,181,693,641)</b>	(1,098,858,065)
<b>Net book value - closing balance</b>	117,138,261	630,121,862	17,685,615	96,706,783	<b>861,652,521</b>	819,734,220

The additions of EUR 118,968,214 include mainly investments during the year in the electricity grid of EUR 92,602,247 and the gas grid of EUR 22,152,168.

As of 31 December 2018, investment projects of EUR 119,625,592 have been definitively closed and transferred to their respective asset class.



## Note 6 – Financial assets

Movements for the year were as follows:

	Shares in affiliated undertakings	Participating interests	Loans to undertakings with which the undertaking is linked by virtue of participating interests	TOTAL 2018	TOTAL 2017
	EUR	EUR	EUR	EUR	EUR
Gross book value - opening balance	42,000,000	2,084,851	350,000	<b>44,434,851</b>	44,294,834
Additions for the year	0	500,000	70,000	<b>570,000</b>	213,440
Disposals for the year	0	(100,000)	0	<b>(100,000)</b>	(73,423)
<b>Gross book value - closing balance</b>	<b>42,000,000</b>	<b>2,484,851</b>	<b>420,000</b>	<b>44,904,851</b>	<b>44,434,851</b>
Accumulated value adjustments - opening balance	0	(100,000)	0	<b>(100,000)</b>	0
Allocations for the year	0	0	0	<b>0</b>	(100,000)
Reversals for the year	0	100,000	0	<b>100,000</b>	0
Accumulated value adjustments - closing balance	0	0	0	<b>0</b>	(100,000)
<b>Net book value - closing balance</b>	<b>42,000,000</b>	<b>2,484,851</b>	<b>420,000</b>	<b>44,904,851</b>	<b>44,334,851</b>

During the year, the Company completed a number of transactions.

- On 22 February 2018, the Company, together with Powerdale S.A., created Nexxlab S.A. for an amount of EUR 500,000. The purpose of the new company is the research and development of innovative solutions in the field of smart grid and electric mobility (Energy Management).
- On 16 October 2018, Learning Factory S.A. was dissolved. As a consequence, an impairment of EUR 5,000 has been reversed and posted under the caption "Value adjustments in respect of financial assets and of investments held as current assets". The loss of EUR 4,687 was posted under the caption "Interest payable and similar expenses concerning affiliated undertakings".
- During the year, the Company granted a loan to Balansys S.A. for an amount of EUR 70,000 in accordance with the Transitional Agreement in the context of the Market Integration Project between Belgium and Luxembourg

The Company holds at least 20% of the capital in the following undertakings:

Company name	Headquarters	Proportion of capital held	Last available annual accounts	Shareholders' equity at year-end	Of which result for the year	Participation net book value 31/12/2018	Participation net book value 31/12/2017
		%		EUR	EUR	EUR	EUR
Creos Deutschland Holding GmbH	Homburg (Germany)	96,88	31/12/2018	54,297,586	7,439,348	42,000,000	42,000,000
Balansys S.A.	Luxembourg (Luxembourg)	50,00	31/12/2018	31,000	0	15,500	15,500
Ampacimon S.A.	Grâce-Hollogne (Belgium)	22,43	31/12/2018*	2,589,051	(1,177,060)	1,759,542	1,759,542
Nexxlab S.A.	Luxembourg (Luxembourg)	50	31/12/2018*	875,059	(124,941)	500,000	0

\* Unaudited

The Board of Directors is of the opinion that no additional value adjustments on these investments are necessary.

## Note 7 – Trade debtors

Trade debtors relate mainly to revenues from transportation and distribution of electricity and gas.

## Note 8 – Amounts owed by affiliated undertakings

As of 31 December 2018, the Company has a receivable of EUR 18,066,386 from affiliated undertakings (2017: EUR 36,576,172).

## Note 9 – Other debtors

As of 31 December 2018, this caption mainly comprises a receivable of EUR 15,595,864 (2017: EUR 8,244,205) in the context of the mechanism of compensation, income tax recoverable of EUR 19,333,905 (2017: EUR 10,805,470), and VAT receivable of EUR 1,900,518 (2017: EUR 3,199,178).

## Note 10 – Own shares

Pursuant to a merger of municipalities and in accordance with the Company's by-laws and a resolution of the General Assembly dated 8 May 2012, Creos Luxembourg S.A. bought back 5,045 own shares from Schengen municipality for an amount of EUR 469,595 which has been recorded as current assets. A blocked reserve for the same amount has been provided for according to the law on commercial companies (see also note 12).

## Note 11 – Prepayments and deferred income

According to the regulation scheme, the amount of revenues (grid tariffs) deriving from regulated activities is authorised on an annual basis by the Regulator, ILR. The difference between actual and authorised revenues is assessed each year by the Regulator. This difference is considered in the determination of the electricity and gas grid tariffs for subsequent years. In case actual revenues are over (respectively under) revenues as accepted by the ILR, tariffs for subsequent years will be reduced (respectively increased) and consequently such difference is provided for.

According to the regulation scheme, a cumulated difference (2018 and prior years) is calculated individually for each regulated activity (electricity, gas transport, gas distribution, metering electricity, metering gas) and is provided for, when positive, in the caption "Prepayments" for an amount of EUR 5,714,587 (2017: EUR 109,122) and when negative, in the caption "Deferred income" for an amount of EUR 33,241,471 (2017: EUR 25,033,017).

Furthermore, Creos Luxembourg S.A. participated early 2013 together with the other grid operators in Luxembourg in the "Luxmetering GIE" to develop an IT platform dedicated to the smart metering system. The GIE has no capital and the financial stake of Creos Luxembourg S.A. in the GIE corresponds to the ratio number of meters owned by Creos Luxembourg S.A. / number of meters owned by all GIE members and is around 80%. Cash advances of EUR 2,820,869 paid to Luxmetering G.I.E. are posted under the caption "Prepayments" (2017: EUR 7,627,249).

The same caption also comprises prepaid expenses related to rental charges for an amount of EUR 296,919 (2017: EUR 92,975), gas grid usage for an amount of EUR 409,174 relating to a subsequent financial year.



## Note 12 – Capital and reserves

As at 31 December 2018, the Company's subscribed capital was EUR 198,851,260. The capital is fully paid-up and represented by 9,942,563 shares without designation of a nominal value.

The Company is required to allocate a minimum of 5% of its annual net income to a legal reserve, until this reserve equals 10% of the subscribed share capital. This reserve may not be distributed. The reserve is already fully allocated.

The movements for the year are as follows:

	31/12/2017	Distribution of dividends	Allocation of previous year's profit	Profit or loss of the financial year	Other movements		31/12/2018
	EUR	EUR	EUR	EUR	Increase	Decrease	EUR
Subscribed capital	198,851,260						<b>198,851,260</b>
Share premium account	189,562,253						<b>189,562,253</b>
Legal reserve	19,885,126						<b>19,885,126</b>
Reserve for own shares	469,595						<b>469,595</b>
Other reserves	218,570,486		22,600,000		1,501,954	(11,830,000)	<b>230,842,440</b>
Other available reserves	154,805,486		10,000,000 <sup>1)</sup>				<b>164,805,486</b>
Other non available reserves	63,765,000		12,600,000 <sup>1)</sup>		1,501,954 <sup>2)</sup>	(11,830,000) <sup>1)</sup>	<b>66,036,954</b>
Profit brought forward	3,823,597		(11,514,767) <sup>1)</sup>		11,830,000 <sup>1)</sup>		<b>4,138,830</b>
Profit or loss for the financial year	40,897,787	(29,812,554) <sup>1)</sup>	(11,085,233) <sup>1)</sup>	36,239,336			<b>36,239,336</b>
<b>Total</b>	<b>672,060,104</b>	<b>(29,812,554)</b>	<b>0</b>	<b>36,239,336</b>	<b>13,331,954</b>	<b>(11,830,000)</b>	<b>679,988,840</b>

1) Decision of the ordinary general meeting of shareholders of 8 May 2018.

The amount allocated to the blocked reserve is equal to five times the amount of the wealth tax credit. The total reserve amounts to EUR 64,535,000 for 2013 to 2017. The amount allocated for 2012, EUR 11,830,000, was released to retained earnings as at 31 December 2018 (Note 15.1). This reserve is non distributable for a period of five years from the year following that during which the Net Wealth Tax was reduced.

2) According to Art. 54 of the Tax law, a capital gain amount of EUR 1,501,954 has been transferred to a blocked reserve in 2018.

## Note 13 – Provisions

### 13.1. Provisions for pensions and similar obligations

Under a supplementary pension scheme, Creos Luxembourg S.A. has contracted a defined benefit scheme for staff members who started their employment with the Company before 1 January 2001. The Company is committed to pay a lump sum at the retirement of each employee. The amount reported in the balance sheet is estimated based on the following assumptions:

- retirement age taken into account for financing: 60 years
- yearly discount rate of 3.48 %
- estimated wage at time of retirement
- turnover rate of employees of 2%.

Actuarial profits and losses are immediately recognised in the profit and loss account based on a calculation done by an external actuary.

In addition, for a defined contribution pension scheme for staff members who joined the Company after 1 January, 2001, the Company pays a contribution to an insurance company that is recorded under expenses for the year. For 2018, expenses for the pension scheme amount to EUR 983,210 (2017: EUR 888,250).

### 13.2. Other provisions

The caption “Other provisions” comprises provisions to cover untaken holidays for employees of EUR 5,303,733 (2017: EUR 4,875,676) and provisions for regulatory risk for an amount of EUR 2,500,000 (2017: EUR 1,500,000). According to the regulation scheme, the authorised revenue derived from large investment projects is adjusted based on the actual amounts invested.

Additionally, a provision for other risks for an amount of EUR 3,900,000 has been accounted for to consider the risks related to defective assets (HV transformers and a gas pipeline) and other sundry risks.

## Note 14 – Amounts owed to affiliated undertakings

Creos Luxembourg S.A. has entered into a cash pooling agreement with Encevo S.A. which, as of 31 December 2018, is owed a cash amount of EUR 1,302,706 by the Company (2017: EUR 34,952,162). The Company paid an interest rate based on Euribor plus a margin for loans (respectively is paid an interest based on Euribor minus a margin for deposits).

Including under the same heading are EUR 5,368,272 owed to affiliated undertakings becoming due and payable within 1 year (2017: EUR 26,244,780), corresponding mainly to the invoicing by Enovos Luxembourg S.A. of the amount due in relation with the “Mechanism of compensation” scheme.

On 26 June 2013, Encevo S.A. issued a German Certificate of Indebtness (Schuldschein) of EUR 102,000,000 with a tenor of 7, 10, 12 and 15 years, of which EUR 65,000,000 were lent to the Company at back-to-back conditions. The interest rate charged reflects the costs incurred by Encevo S.A. to raise the funds in the financial markets. The Schuldschein bears a floating interest rate for the 7 year tenor and a fix interest rate of 2.81%, 3.22% and 3.5% for the 10, 12 and 15 years tenor respectively. The interests for the floating 7 years tenor are paid twice a year in June and December whereas the interests on the fix tenors are paid in June every year. The interests are appropriately provisioned in the accounts. The accrued interest payable as at 31 December 2018 amounts to EUR 1,391,855 (2017: EUR 754,624). In order to comply with the back-to-back conditions of the “Schuldschein” of Encevo S.A., Creos Luxembourg S.A. early reimbursed the variable 7 year tranche amounting to EUR 22,304,000 in October 2018 – as a consequence of the early reimbursement of the variable 7 years “Schuldschein” tranche by Encevo S.A. in June 2018.

On 21 November 2014, Encevo S.A. issued an additional German Certificate of Indebtedness (“Schuldschein”) of EUR 80,000,000, of which EUR 25,000,000 were lent to Creos Luxembourg S.A. at back-to-back conditions. The interest rate charged reflects the costs incurred by Encevo S.A. to raise the funds in the financial markets. The Schuldschein bears a fixed interest rate for the 7 years of 1.547%, 2.004% for the 10 years and 2.297% for 12 years. The interests on the fixed tenors are paid in November every year.

On 11 October 2016, Encevo S.A. granted another long term loan to the Company, amounting to EUR 42,000,000. This financing is split into two tranches, each of EUR 21,000,000, one due after 11 years and one due after 12 years, with a floating interest rate of euribor 6 months plus 1%.

In December 2017, Creos Luxembourg S.A. signed a two-year loan agreement with Encevo S.A. for an amount of EUR 30,000,000 which has been drawn in January 2018.

In 2018, Encevo S.A. issued an additional German Certificate of Indebtedness ("Schuldschein") of EUR 250,000,000, of which EUR 134,304,000 were lent as of 1 October 2018 to Creos Luxembourg S.A. at back-to-back conditions in order to finance the Company's sustainable capital expenditures. The fixed interest rate charged reflects the average all-in costs incurred by Encevo S.A. to raise the funds in the financial markets and is fixed to 1.8915% per year to be paid every year on 1 October. This EUR 134,304,000 loan has 4 tranches with tenors of 7, 10, 12 and 15 years – corresponding to maturities in the new "Schuldschein" of Encevo S.A..

## Note 15 – Other creditors

### 15.1. Tax authorities

Creos Luxembourg S.A. is subject to all taxes applicable to Luxembourg companies and the tax provisions have been provided in accordance with the relevant laws. In accordance with paragraph 8a of the Law dated 16th October, 1934 as amended, Creos Luxembourg S.A. will opt for the reduction of the net wealth tax due for the year 2018 by setting up a special reserve equal to five times the amount of the net wealth tax reduced (see note 12).

Income tax debts are recorded under the caption "Tax authorities". As of 31 December 2018, income tax debts cover principally the year 2015. For the years 2014, 2016, 2017 and 2018, the Company has a receivable, as advance payments were higher than provisions for the year. This receivable is recorded under the caption "Other debtors" (see also note 9).

Debts to the tax authorities also include other tax debts, such as taxes on electricity and gas, taxes on salaries and pensions. As of 31 December 2018, these other tax debts amount to EUR 4,490,505 (2017: EUR 2,407,594).

### 15.2. Other creditors

This caption mainly includes salaries to be paid.

## Note 16 – Net turnover

Net turnover is generated exclusively within Luxembourg. For the year 2018 it breaks down as follows:

	2018	2017
	EUR	EUR
Sales grid power	161,749,141	147,796,633
Sales grid gas	54,288,135	51,779,099
Metering revenues	24,142,544	18,292,372
Energy sales power (equilibrium)	1,841,156	(1,314,969)
Other revenues	21,709,915	27,187,350
<b>Total</b>	<b>263,730,891</b>	<b>243,740,485</b>

Energy sales power (Equilibrium) are the differences between nominations made by suppliers and their actual purchases. This difference, which can be a cost (or a revenue) for the Company is re-invoiced (or credited) to the suppliers.

## **Note 17 – Work performed by the undertaking for its own purposes and capitalised**

This caption accounts for capitalised transport costs, overheads and hours worked by employees on projects activated by the Company.

## **Note 18 – Staff costs**

Staff costs include salaries, social security costs as well as costs for the pension plans. In 2018, the Company had on average 701 employees (2017: 683). The figure in 2018 includes the staff of the City of Luxembourg made available to Creos Luxembourg S.A. (79 employees), the costs of which are shown under wages and salaries for EUR 8,239,462 (2017: EUR 8,884,661). The number of employees increased from 684 FTE at year-end 2017 to 686 FTE at year-end 2018.

## **Note 19 – Income from participating interests**

This caption includes the dividends paid by Creos Deutschland Holding GmbH for an amount of EUR 6,006,275 (2017: EUR 6,781,278).

## **Note 20 – Remuneration paid to members of the administration and supervisory bodies**

Remuneration paid to members of the administration and supervisory bodies totalled EUR 715,500 (2017: EUR 684,000). No advance or loan was granted to members of the administration and supervisory bodies, nor was any commitment given on their behalf in respect of any form of guarantee.

## **Note 21 – Related parties transactions**

During the financial year, the Company did not conclude any significant transactions with related parties which were not done at market conditions.

## **Note 22 – Off balance sheet commitments**

The Company has issued bank guarantees in the context of its regular business for a total amount of EUR 1,000,992 (2017: EUR 1,000,992).

## **Note 23 – Post-balance sheet events**

No major subsequent event has occurred affecting the 2018 accounts.



## Independent auditor's report

### To the Shareholders of Creos Luxembourg S.A.

#### Report on the audit of the financial statements

##### *Opinion*

We have audited the financial statements of Creos Luxembourg S.A. (the "Company"), which comprise the balance sheet as at 31 December 2018, and the profit and loss account for the year then ended, and the notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements give a true and fair view of the financial position of the Company as at 31 December 2018, and of the results of its operations for the year then ended in accordance with Luxembourg legal and regulatory requirements relating to the preparation and presentation of the financial statements.

##### *Basis for Opinion*

We conducted our audit in accordance with the Law of 23 July 2016 on the audit profession (the "Law of 23 July 2016") and with International Standards on Auditing ("ISAs") as adopted for Luxembourg by the "Commission de Surveillance du Secteur Financier" ("CSSF"). Our responsibilities under those Law and standards are further described in the "responsibilities of the "réviseur d'entreprises agréé" for the audit of the financial statements" section of our report. We are also independent of the Company in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants ("IESBA Code") as adopted for Luxembourg by the CSSF together with the ethical requirements that are relevant to our audit of the financial statements, and have fulfilled our other ethical responsibilities under those ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

##### *Other information*

The Board of Directors is responsible for the other information. The other information comprises the information included in the management report but does not include the financial statements and our report of the "réviseur d'entreprises agréé" thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report this fact. We have nothing to report in this regard.

##### *Responsibilities of the Board of Directors for the financial statements*

The Board of Directors is responsible for the preparation and fair presentation of these financial statements in accordance with Luxembourg legal and regulatory requirements relating to the preparation and presentation of the financial statements, and for such internal control as the Board of Directors determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

##### *Responsibilities of the "réviseur d'entreprises agréé" for the audit of the financial statements*

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue a report of the "réviseur d'entreprises agréé" that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Law of 23 July 2016 and with ISAs as adopted for Luxembourg by the CSSF will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with the Law of 23 July 2016 and with ISAs as adopted for Luxembourg by the CSSF, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board of Directors.
- Conclude on the appropriateness of Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our report of the "réviseur d'entreprises agréé" to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our report of the "réviseur d'entreprises agréé". However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

#### **Report on other legal and regulatory requirements**

The management report is consistent with the financial statements and has been prepared in accordance with applicable legal requirements.

Ernst & Young, Société anonyme  
Cabinet de révision agréé  
Luxembourg, 28 March 2019  
Represented by Jeannot Weyer



Creos Luxembourg's annual report is published in both English and French. Only the English version may be considered the original.

We would like to thank all those involved in the preparation and publication of this annual report.

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