



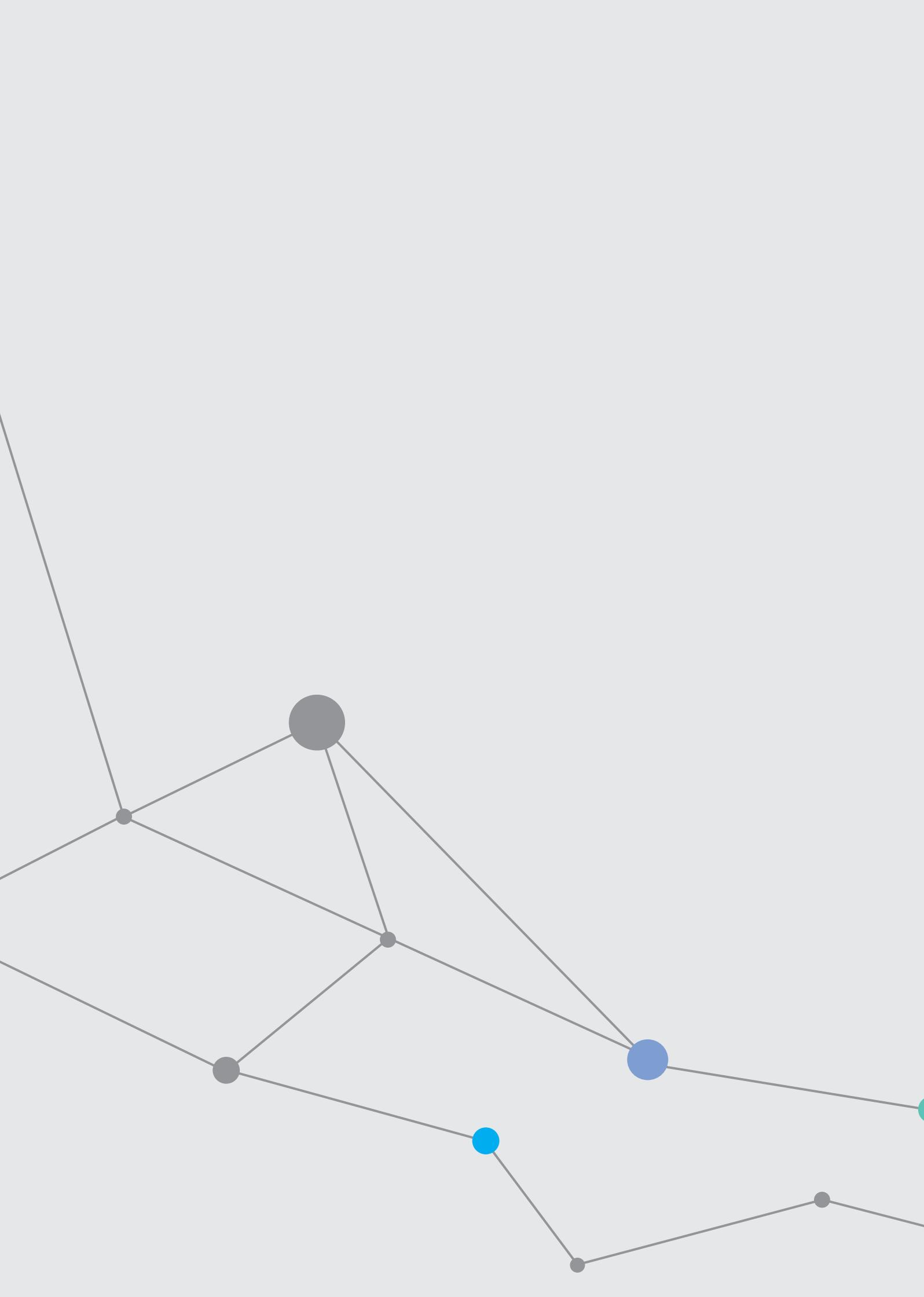
ANNUAL REPORT 2017





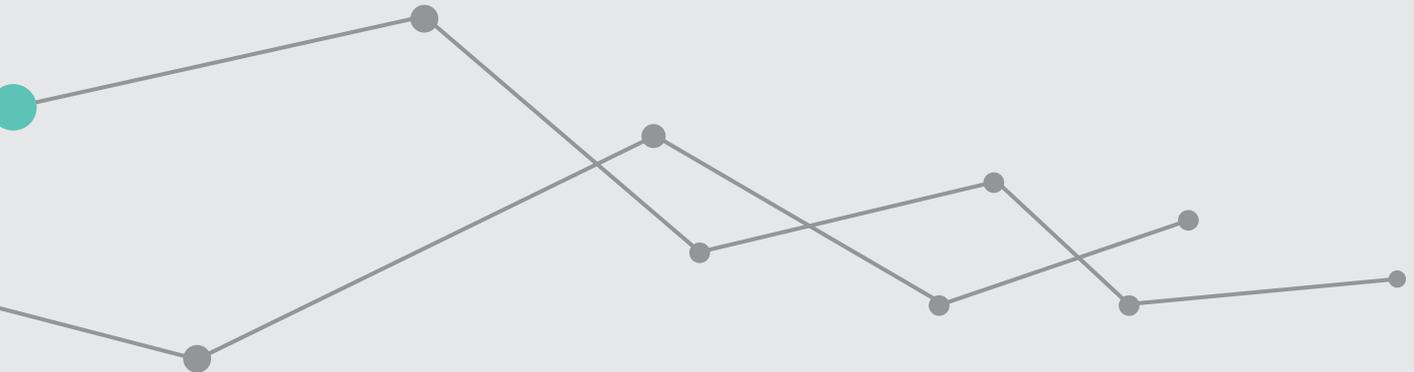
Creos Luxembourg S.A. Registered as a société anonyme (public limited company) under Luxembourg law with capital of EUR 198,851,260  
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Legal headquarters: 59-61 rue de Bouillon, L-1248 Luxembourg

Annual General Meeting of 8 May 2018  
Reports presented to the annual general meeting of shareholders by the Board of Directors and the independent auditors  
Reports and annual accounts for the 2017 financial year



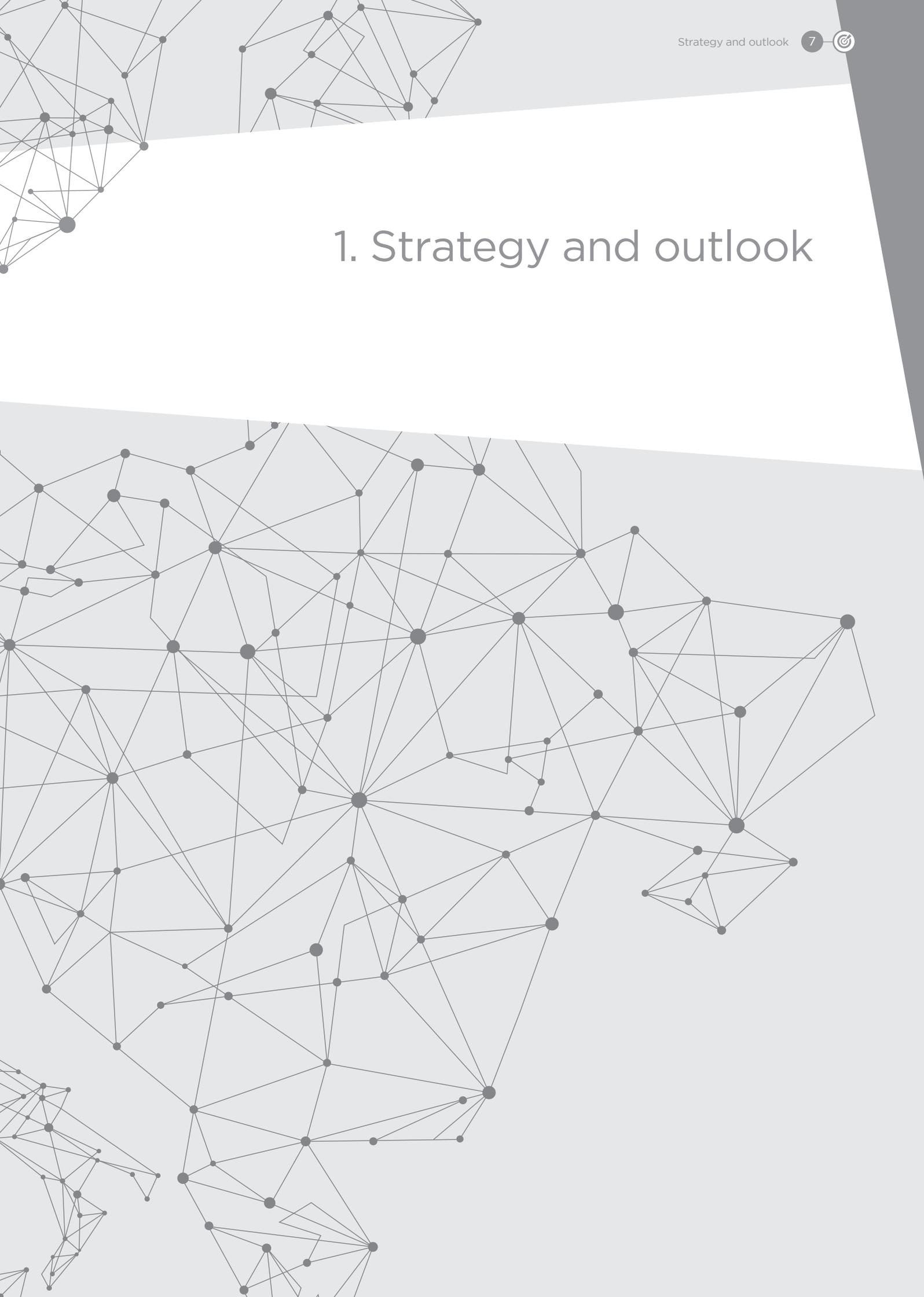
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# 1. Strategy and outlook



Interview with Mario Grotz, Chairman, and Claude Seywert, CEO

# An additional national and international dimension

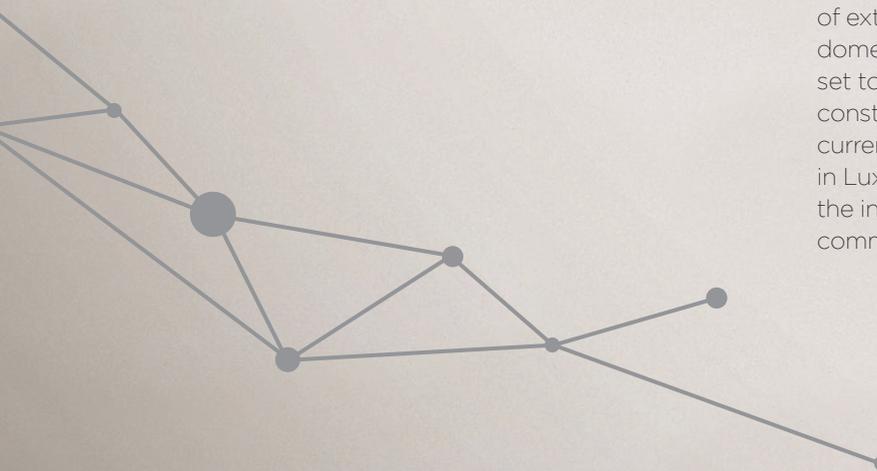
**INTERCONNECTION WITH THE BELGIAN POWER GRID, OFFICIAL OPENING OF LUXRING, SET-UP OF A CUSTOMER CONTACT CENTRE, INTENSIVE USE OF SOCIAL NETWORKS AS PART OF ITS COMMUNICATION POLICY, CREATION OF A UNIT COMPLETELY DEDICATED TO INNOVATIVE SOLUTIONS, CONSTRUCTION OF A NEW COMPANY HEADQUARTERS AND REGIONAL CENTRE IN LUXEMBOURG CITY MORE IN LINE WITH ITS REQUIREMENTS: 2017 WAS AN EVENTFUL YEAR FOR CREOS WHICH IS PLAYING A GREATER ROLE AND ASSUMING MORE RESPONSIBILITIES IN THE ENERGY MARKET THAN EVER BEFORE.**

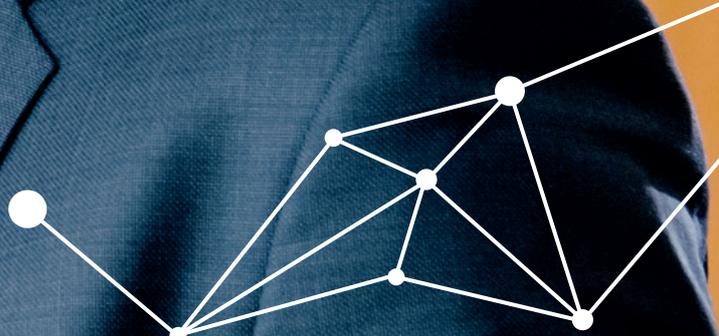
**What is your assessment of 2017, both in terms of the energy market in general and Creos in particular?**

**M.G.:** With regard to the energy market in general, there were two major events in 2017. The first was the new European regulation governing the security of gas supply. These new provisions ensure that member states take joint measures – coordinated at regional level – to prevent gas shortages. They apply the principle of solidarity for the first time. The member states have to assist their neighbours in the event of serious crisis. The second involves the application of various European power grid codes, in other words common provisions governing all cross-border transactions within the European Union and the use of the power transmission grids. These codes will improve the harmonisation, integration and efficiency of the European electricity market.

**C.S.:** As far as Creos is concerned, the main event in 2017 was the interconnection of our power grid with that of Belgium. This will enable us to achieve a genuinely international dimension, whereas we were previously restricted to the markets of Luxembourg, Germany and Austria. The second event, which was less high profile but equally important, was the set-up of an automated and standardised communication system in Luxembourg between all the players in the energy market.

Operating results have remained stable. The investments made in 2017 focused mainly on the integration of Luxring, particularly the connection with the medium and low-voltage stations in Luxembourg City. Strategically, we are preparing our grids for significant upgrading over the coming years, not just in terms of existing cross-border connections within the framework of extended European cooperation but also domestically. Major development projects are set to be carried out in Luxembourg, such as the construction of the new national stadium, which is currently under way, the extension of the tram line in Luxembourg City, the growth in electromobility, the increase in industrial activity and the commissioning of new production lines.



A white network diagram consisting of several interconnected nodes and lines, overlaid on the man's suit.

*‘Developing innovative energy management solutions is one of our main priorities.’*

Mario Grotz, Chairman

**By establishing market coupling between the Belgian hub and the German and Austrian one, Creos is increasingly pursuing a pan-European strategy. What results is this coupling expected to achieve?**

**M.G.:** The main aim of interconnecting our grid with the Belgian one was to secure the electricity supply to Luxembourg and avoid relying solely on Germany. However, this interconnection has also created a potential corridor of commercial exchange between Belgium, Luxembourg and Germany which has made operational processes significantly more complex and increased our role and responsibilities with regard to the management of electricity flows. Today, we no longer just have to coordinate operations with our German neighbour but also with all of the other European grid operators.

**Creos officially put into service a 220/65/20 kV transformer station in Itzig/Blooren on 4 October 2017. Could you remind us of the aims of this investment which required a €80 million budget and took almost 13 years to complete?**

**C.S.:** Luxring, this new loop made up of two high-voltage 220 kV lines running around Luxembourg City, has enabled us to double our electricity transmission capacity. Luxembourg's security of electricity supply is ensured, in particular the central and southern parts of the country. Completion of major urban development projects, such as the one on the Kirchberg plateau, the business parks around the airport and the expansion of the national recharging infrastructure for electric vehicles, these two regions will have to meet growing demand for electricity.

The installation of the Luxring also played a key role in the interconnection of our grid with that of Belgium. While we would have been able to import electricity from our two neighbours without this loop, we would have been unable to transmit it across our country due to a lack of capacity. Luxring is therefore not just part of national development but also that of the European power grid.

**Did the mass roll-out of smart meters go according to plan in 2017?**

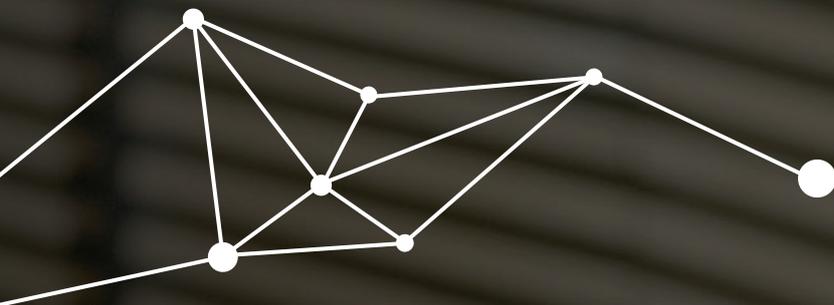
**C.S.:** By the end of 2017, we had replaced 70,000 of the 250,000 electricity meters and around 10,000 of the 50,000 gas meters. We have strengthened our teams and have now reached a steady rate of 500 meters a day. Plans to replace all meters with smart ones for electricity by 2019 and for gas by 2020 should be met.

**A major communications campaign was undertaken in 2016 and was followed up in 2017, particularly through a strong social media presence. Has this campaign raised Creos's brand awareness?**

**C.S.:** Yes, undoubtedly. Our brand awareness has increased significantly over recent years. Most people know our public service role today and our image developed over the years – a mixture of tradition and innovation – is attracting more and more young graduates. By focusing on digitalisation and social media, we aimed to give our communication a new dimension that is more interactive and geared towards dialogue. Our relationships with end customers will change radically in the near future. Due to increasingly favourable European legislation and technological progress, they will become full partners in energy management with whom one-directional communication is no longer appropriate.

**This desire for transparency was also reflected in the creation in 2017 of a single point of contact for all customers. Has this new department begun operations as scheduled?**

**C.S.:** We set up a contact centre in 2017 with an Infoline to improve our accessibility to the general public. From now on when customers want to contact us to request a connection or to make a complaint, they can call a single number. This has had a positive impact as we have significantly improved our call answering rate.





***‘Our strategy is therefore not just part of national development but also that of the European power grid.’***

Claude Seywert, CEO



The next step involves simplifying our administrative procedures. Last year we carried out a study on a selection of private and professional customers and asked them how they interacted with Creos. These customer experiences revealed that our processes involve lots of complicated stages and can sometimes take a long time. Our next challenge is making this customer experience more pleasant and transparent.

**Together with Powerdale S.A., Creos has established a joint venture called NEXXTLAB. What are this company's goals and what benefits are expected for Luxembourg?**

**M.G.:** This project is part of the government's desire to get the country ready for the third industrial revolution which involves the convergence of ICT (Information and Communication Technologies), renewable energy and new modes of transport within an intelligent network. This third industrial revolution will also have an impact on how power grids are managed. To anticipate this development, we must now adopt a different, more dynamic approach which will enable us to optimise the new flows of energy more effectively from a technical and behavioural perspective.

This is why we have joined forces with Powerdale to establish a joint venture which aims to develop innovative solutions in the field of energy management, primarily in Luxembourg. Powerdale has not been chosen as a partner by chance. This company is based in Belgium and develops modular hardware and software solutions for electric mobility and energy management, and is our main supplier in the Chargy project, the public network of charging stations for electric vehicles in Luxembourg.

**Creos has always actively pursued a policy of social responsibility. What were the main achievements in 2017 in this respect?**

**C.S.:** As part of our CSR policy we have been endeavouring for several years to minimise the impact of our activities on the environment, in particular by running power lines underground and by harmoniously integrating our installations.

We are also investing in education and, in particular, a project aimed at raising young people's awareness of technology. We recently funded the giant electromagnet at the Luxembourg Science Center in Differdange.



We have also provided local associations with logistical support on several occasions. One example was the “Go Urban” international scouts camp set up in July 2017 on the Kirchberg plateau.

Finally, in 2017 we continued supporting “Objectif Tiers Monde”, a Luxembourg NGO which is active and present in Haiti since 1985. Since the earthquake which hit the country in 2010, a team of volunteer electricians has visited the Café-Lompré/Viala region in the south of the island each year and made their professional services available to the population. We are extremely proud to be involved in this long-term electrification project.

**The groundbreaking ceremony for the future headquarters in Luxembourg-Merl took place on 21 February 2018. Why have you invested in this new building?**

**M.G.:** This investment will eventually enable us to permanently leave the Hollerich site, which is owned by the city of Luxembourg, in view of the future developments planned for the district. We have

taken this opportunity to merge our two sites in Luxembourg City – in Hollerich and Strassen – at a single location. Around €70 million will be invested in this project, which involves the construction of two buildings with a total surface area of 20,000 m<sup>2</sup> by early 2020. Staff relocation – around 350 people – is scheduled for the third quarter of 2020.

This synergy represents a significant step for Creos. It will not only provide us with a headquarters better suited to our current and future requirements but will also establish a new regional Centre alongside those in Roost and Schiffange. This new facility will ensure we are better prepared than ever to face the challenges to come.



# Shareholder structure

## Shareholder structure of Creos Luxembourg S.A. as at 31.12.2017

|  |                |
|--|----------------|
| 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<br>(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)              |                                    | 2017                            | 2016              |
|-------------------------------|------------------------------------|---------------------------------|-------------------|
| Net turnover                  | (MEUR)                             | <b>243.7</b>                    | 258.0             |
| EBITDA                        | (MEUR)                             | <b>122.3</b>                    | 137.5             |
| EBIT                          | (MEUR)                             | <b>40.9</b>                     | 64.4              |
| Profit for the financial year | (MEUR)                             | <b>42.2</b>                     | 57.3              |
| Investment                    | (MEUR)                             | <b>118.3</b>                    | 120.6             |
| Workforce (average)           | (number)                           | <b>683</b>                      | 669               |
| <b>Electricity</b>            |                                    |                                 |                   |
| Electricity flow              | (GWh)                              | <b>5,132.5</b>                  | 5,048.2           |
| Electricity network peak      | (MW)                               | <b>828.8</b>                    | 795.0             |
| Network length                | (km)                               | <b>9,783.0</b>                  | 9,702.5           |
| Electric meters               | LV-SLP (number)<br>MV-RLP (number) | <b>265,979</b><br><b>10,385</b> | 259,280<br>10,094 |
| Chargy charging stations      | (number)                           | <b>100</b>                      | -                 |
| <b>Natural gas</b>            |                                    |                                 |                   |
| Total gas network capacity    | (Nm <sup>3</sup> /h)               | <b>319,000</b>                  | 319,000           |
| Gas network peak              | (Nm <sup>3</sup> /h)               | <b>205,988</b>                  | 204,780           |
| Volume transported            | (GWh)                              | <b>8,957</b>                    | 9,165             |
| Network length                | (km)                               | <b>2,090.3</b>                  | 2,059.3           |
| Natural gas meters            | (number)                           | <b>46,389</b>                   | 45,749            |

The financial year corresponds to the calendar year.

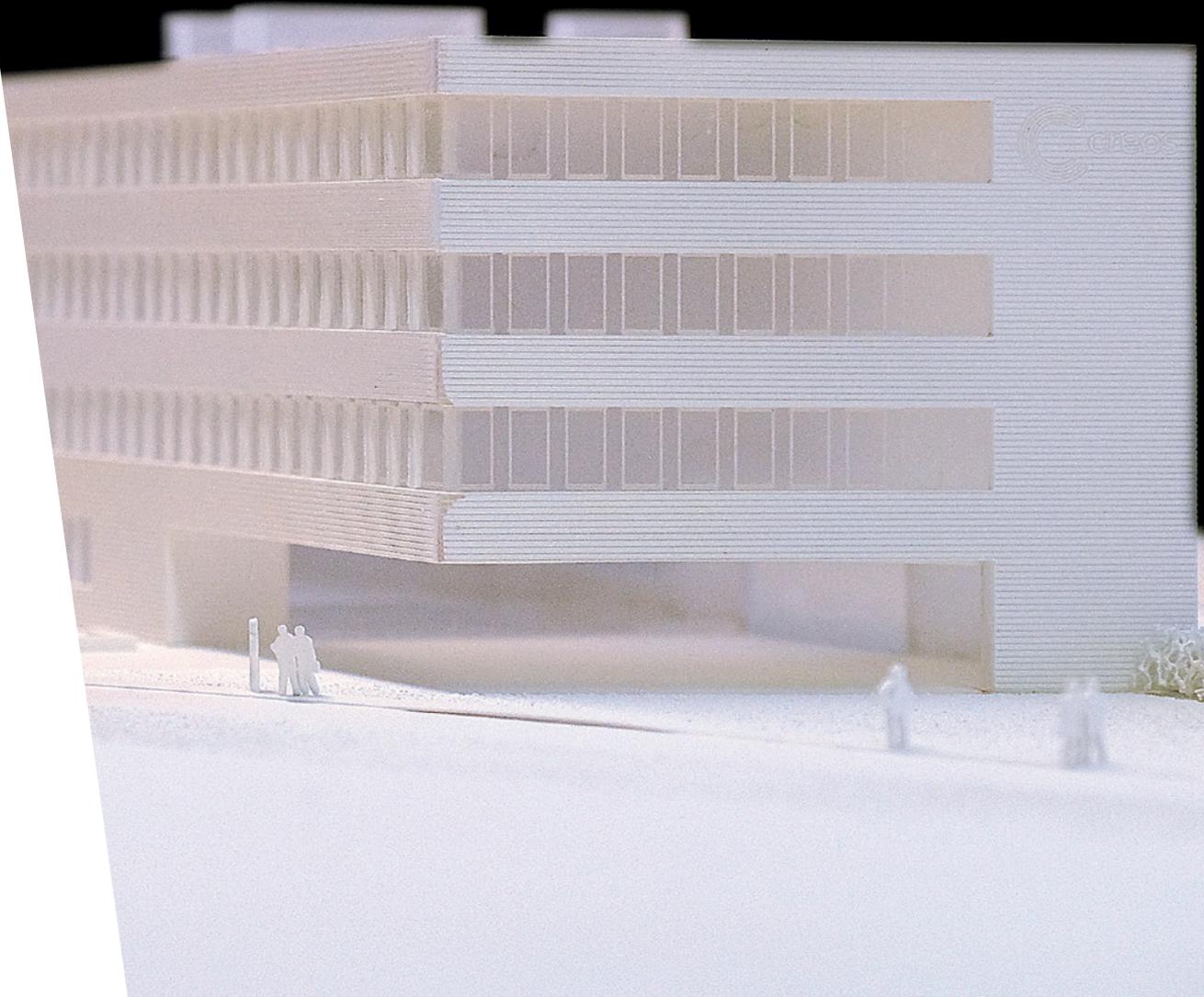


# Mission

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 31.12.2017

### Chairman and Managing Director

Mario Grotz

### Vice-Chairman of the Board

Benoît Gaillochet

### Members of the Board

|               |                 |                  |                   |                 |
|---------------|-----------------|------------------|-------------------|-----------------|
| Sasha Baillie | Lex Kaufhold    | Claude Reder     | Christiane Schaul | Laurent Vanetti |
| Michel Birel  | Pierre Kremer   | Patrick Reder    | Jean Schiltz      | Marco Walentiny |
| Georges Biver | Thierry Kuffer  | Michael Reuther* | Claude Seywert    | Gilbert Zahles  |
| Eric Bosman   | Paulette Lenert | Patricia Rix     | Anne Van Goethem  |                 |

### Government Commissioner for Energy

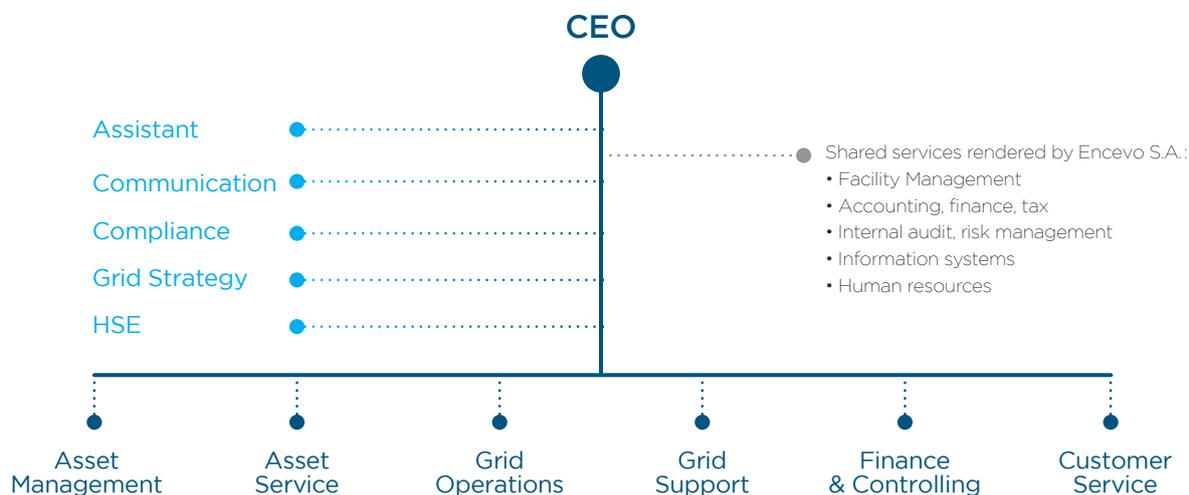
Tom Eischen

\* Permanent representative of the director AXA Redilion ManagementCo S.C.A.

## 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.





## Management of Creos Luxembourg S.A.



**Claude Seywert**  
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/  
Communication  
Infrastructure service,  
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,  
the Business IT and  
the Back Office.



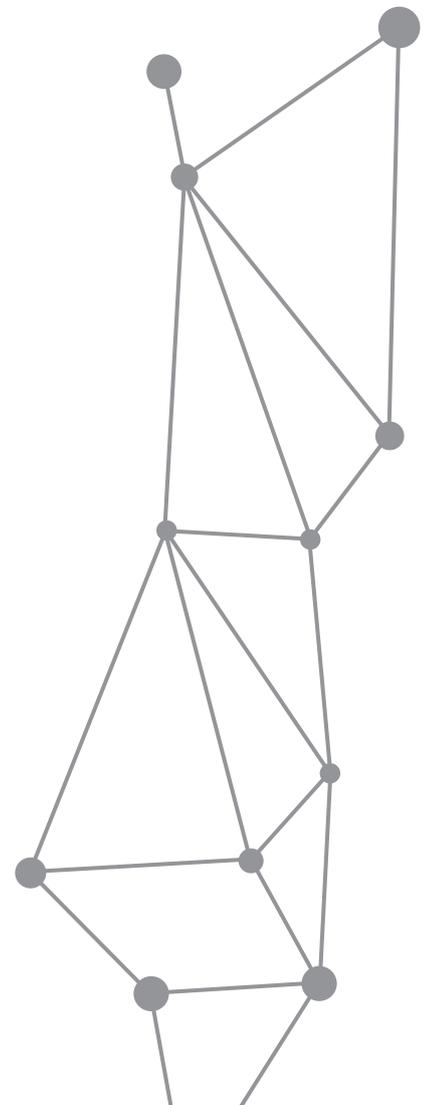
**Eric Mauer**  
is responsible for  
*Finance & Controlling*  
as well as the Legal  
and Purchasing units.



**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.



# Highlights 2017

## SMART METERS AND THE CIRCULAR ECONOMY

In partnership with the non-profit organisation Forum pour l'Emploi, Creos is joining the circular economy. The dismantling of old electric and gas meters will enable the recovery of over 300 tonnes of recyclable materials (copper, aluminium and iron) over the course of the operation. Eight jobs were created thanks to the added value generated by the sorting and recovery of these raw materials.



## CHARGY GOES ONLINE

Available in three languages, the [chargy.lu](http://chargy.lu) website went online in May 2017. It provides extensive information about electric mobility in the Grand Duchy of Luxembourg and the creation of the first network of public charging stations.

## CREOS HAITI

A team of five electricians, including an expert in photovoltaic energy from the company Reckinger-Bock (FRO Solar Concept), travelled to Haiti for three weeks to carry out a 5 kV electrification project in the Café Lompré and Viala region. Over 6 km of cables were laid in rugged terrain. Creos has supported the non-profit organisation Objectif Tiers Monde Haïti since 2010.





## GO FOR BOVÉ

The “Go for Bové” project is becoming a reality after the start of excavation work and daily deployment of bulldozers on the site of the future administrative headquarters and operations Centre in Luxembourg City. Three buildings will be constructed on this 2.8-hectare site which is scheduled for occupation in 2020.

## WIKIPEDIA

Aware of the importance of social media, Creos is increasingly active on platforms such as Facebook, YouTube, Twitter, LinkedIn and Instagram. The company regularly publishes articles on its blog and also established a presence on Wikipedia in French, German and English this year.



## OFFICIAL OPENING OF LUXRING AND THE ITZIG/BLOOREN TRANSFORMER STATION

After ten years of planning and three years of construction, Etienne Schneider, Deputy Prime Minister and Minister of the Economy, Marc Lies, Mayor of Hesperange, and Claude Seywert, CEO of Creos, officially opened the new Luxring loop consisting of two 220 kV high-voltage lines which circle Luxembourg City, covering over 35 km, and the Itzig/Blooren shielded sub-station.

## CHROMATOGRAPHS

Two chromatographs were commissioned at the high-pressure gas station in Pontpierre. They measure the quality of natural gas and its total content of sulphur and THT odorant. The results are sent directly to the Dispatching in Heisdorf via the fibre-optic network.





## SET-UP OF “MARKET COMMUNICATION”

1 October marked the beginning of a new era between grid operators and suppliers of electricity and natural gas with the set-up of “Market Communication (MaCo)”, an electronic platform enabling the automated processing and exchange of bulk data.



## OFFICIAL OPENING OF THE LUXEMBOURG SCIENCE CENTER

The Luxembourg Science Center was opened on 4 October 2017 at an official ceremony attended by Prime Minister Xavier Bettel, Minister for Higher Education and Research Claude Meisch, and many other guests. Creos, the first private partner to support this initiative dedicated to science, funded the development and construction of a Helmholtz-type electromagnet.



## STREET ART

After creating the “One city – one world” fresco on the kiosk at the “place du Théâtre”, Joël Rollinger, an artist who is a member of Luxembourg City’s urban art committee, decided to paint a 20 kV transformer station in Pétange. Featuring twelve faces, the work reflects the diversity of Luxembourg’s society.



## PST INTERCONNECTION

With the commissioning of a phase shifting transformer (PST) at the Schiffflange station and the interconnection with the Belgian electricity market, Creos has taken a major step towards improving the security of the nation's power supply.



## CREOS DEUTSCHLAND ACQUIRES THE STEAG GRID

With the acquisition of STEAG GmbH's 450 km medium and high-voltage grid in Sarre, Creos Deutschland has entered the electricity market, and is thus underlining its desire to develop and diversify its activities. 26 employees joined the Creos teams at the new company location in Homburg on 1 July.



## AND THE WINNER IS...

Chargy won the People's Vote Project - award in the ENERGY category at the Luxembourg Sustainability Forum organised to mark ten years of IMS Luxembourg. This competition, which recognises the inspiring and innovative practices of companies in Luxembourg, was established in light of the Third Industrial Revolution.

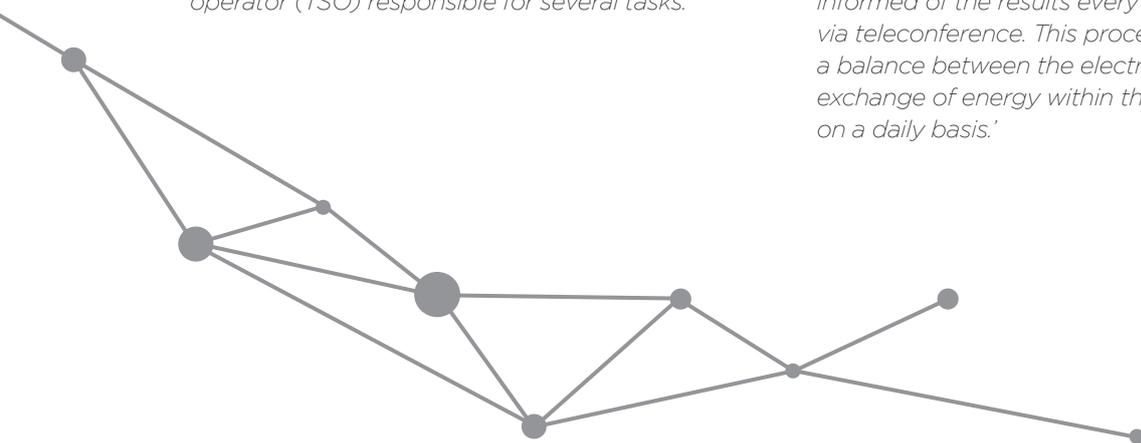
“Dispatching” report

# Moving towards more digital and interconnected management

**2017 SAW THE LAUNCH OF AN AMBITIOUS PROJECT WHICH IS THE RESULT OF COLLABORATION BETWEEN CREOS AND ITS BELGIAN (ELIA) AND GERMAN (AMPRION) COUNTERPARTS. ON 11 OCTOBER, THE CONNECTION BETWEEN THE THREE COUNTRIES BECAME A REALITY WITH THE TECHNICAL COMMISSIONING OF A PHASE SHIFTING TRANSFORMER AT THE HIGH-VOLTAGE STATION IN SCHIFFLANGE. DESIGNED TO ENSURE THE SECURITY OF THE NATION'S ELECTRICITY SUPPLY AND TO CREATE A NEW CORRIDOR ENABLING EXCHANGE BETWEEN BELGIUM, LUXEMBOURG AND GERMANY, THIS PROJECT WILL NOT BE LAUNCHED COMMERCIALY UNTIL AFTER A ONE-YEAR TEST PERIOD. ONE SITE IN PARTICULAR WILL BE PUT TO THE TEST DURING THIS 12-MONTH PERIOD: THE DISPATCHING DEPARTMENT IN HEISDORF.**

This department is responsible for the day-to-day management of the grids, employs 60 people and is divided into five units: Grid Data Management, High-Voltage Dispatching, Medium-Voltage Dispatching, Gas Dispatching and the SCADA / Communication Infrastructure department. *'The creation of this interconnection has had a major impact on how we work,' says Carlo Bartocci, Head of Grid Operations. 'Creos is now completely integrated into the European power grid and we have become a genuine transmission system operator (TSO) responsible for several tasks.'*

*'Just like all the other European transmission grid operators, we now have to send our hour-by-hour forecasts for the coming days on a daily basis as well as information on the status of the overall network to regional security-of-supply coordinators in Brussels in the case of Coreso and in Munich for TSCNET,' explains Paul Hulthen, Head of Power HV. 'Based on the data received, these regional coordinators carry out the coordinated calculation of the exchange capacities between zones and notify each TSO of the results. We are informed of the results every day at around 9 p.m. via teleconference. This process aims to achieve a balance between the electricity system and exchange of energy within the European Union on a daily basis.'*





*‘Today, we’ve become  
a complete TSO.’*

Carlo Bartocci,  
Head of Grid Operations



From left to right: Gilles Krantz, Georges Welter, Carlo Bartocci, Paul Hulten, Jorge Lopes

# A crucial test phase before commercial roll-out

While the forecasts provided by Creos do not currently have any financial implications, they may well have after the commercial launch of coupling between the Belgian and German markets scheduled for 2019. Within the context of the liberalisation of the electricity market, the European regulations enable the use of the interconnection capacity available at the borders and their negotiation between the various economic players (generators, suppliers, large industrial consumers, specialist trading companies etc.) whether directly by mutual agreement or through the European electricity exchanges. 'This means if we get our forecasts wrong, it may cost us dearly,' explains Paul Hulthen. 'Imagine that we announce the availability of 100 megawatts of capacity on the market in two days' time and a supplier pays the market rate for this 100 megawatts. We have a strong interest in providing the capacity indicated by the deadline set without being obliged to compensate the supplier. This is why the current test phase is vitally important, because we can test the reliability of the operational processes under real conditions in collaboration with the Belgian and German grid operators and the two regional security-of-supply coordinators.'

'Our obligations also include managing and forecasting,' comments Georges Welter, Head of Dispatching Gas. 'Like our colleagues of the High-Voltage Dispatching, we have a team who take it

in turns to ensure ongoing control of the high-pressure gas network and we send data on the network status every hour and every day as well as our consumption forecasts for the next few days. The difference is that our main contact partner is not a regional security-of-supply coordinator but instead our Belgian partner Fluxys as part of the integrated Belgium and Luxembourg market. Our forecasts are updated several times a day based on fluctuations in temperature which can change by the hour. We also check the gas quality at the points of entry to the country and on our network every five minutes using chromatographs. These devices measure the composition of the gas, its calorific value and carbon dioxide level (CO<sub>2</sub>) and alert us in the event of doubtful information.'

'In the field of electricity, the control area of Creos covers the Creos network as well as the connected distribution system operators. Every active supplier must estimate the upcoming consumption of his end customers. Distribution grids also estimate their energy needs in order to guarantee the utilisation of their network (i.e. for compensation of losses). These estimations are transmitted on a daily basis to the Grid Data Management department in terms of schedules', declares Richard Johanns, Head of Grid Data Management. 'After a check of concordance, the Grid Data Management proceeds to the matching between our control area and that of Amprion.'



**'Every day we exchange data with regional security-of-supply coordinators.'**

Paul Hulthen,  
Head of Power HV



## A single control system for everyone – SCADA

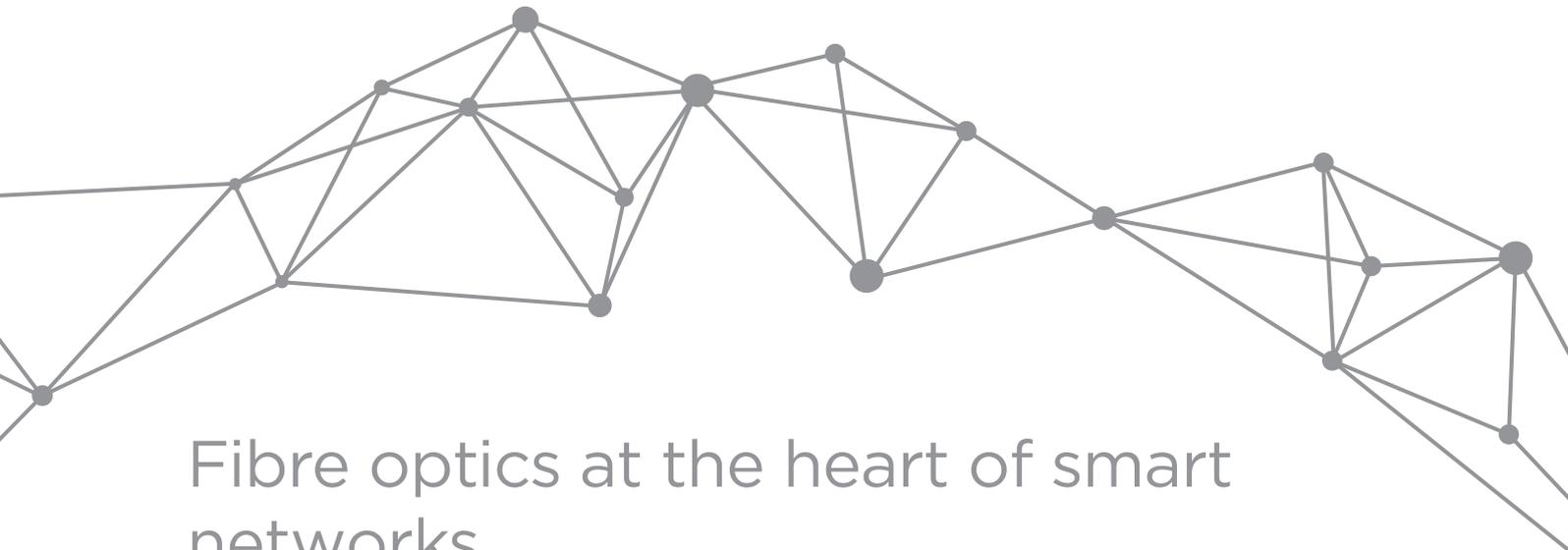
In order to perform their control and prevention tasks effectively, the three dispatching teams have a joint remote management system – SCADA, or Supervisory Control and Data Acquisition – which processes a high volume of measurements in real time and checks the technical installations remotely. The system is completely secure, autonomous and closed, and all data is stored redundantly at two separate data centres in Bettembourg and Bissen.

*‘Our telecommunications infrastructure plays a key role in this remote management system, particularly in relation to the set-up of future smart grids,’ adds Jorge Lopes, Head of SCADA/COMIN. ‘These smart networks enable the optimisation of power and gas distribution thanks to the real-time coordination of the various grid elements – production, transmission, distribution and consumption. Two years from now in 2020, every home in Luxembourg will be fitted*

*with smart meters. These new meters will send their consumption data remotely via power cables over short distances to concentrators installed in the medium-voltage transformer stations. This will provide us with a good overview of what’s going on in the low-voltage grid but we still won’t have a detailed insight into the medium-voltage grid (20 kV). Our goal is to interconnect the country’s 3,000 medium-voltage transformer stations so that they can be monitored and controlled remotely.’*

# 'The creation of a national energy Internet is well under way in Luxembourg.'

Jorge Lopes,  
Head of SCADA/COMIN



## Fibre optics at the heart of smart networks

The COMIN department uses two technologies to achieve this objective: TETRA (terrestrial trunked radio), a digital, mobile, professional bidirectional radio system, and fibre optics. *'This is already installed on the high-voltage lines and we use overhead optical fibre – via the TASE2 protocol – to easily exchange information with German and also Belgian operators since the interconnection with Elia. Our transmission grid's IP/MPLS (multi-protocol label switching) also provides a wide range of services, whether via TETRA or optical fibre. We have also fitted most of the country's high-voltage stations with video surveillance cameras, thus ensuring remote security of these sites. The same applies to the high-pressure gas sites situated on the borders. We are also working on underground installation of fibre optics throughout the territory of the Grand Duchy. We define the communication layouts, organise the installation sites with sub-contractors and seek partners to share costs. Specifically, we fit multi-duct systems at these installation sites which enable other operators to feed their cables through if they wish. When the regional Creos Centres start work on sites to replace medium-voltage cables, they systematically install empty ducts which the fibre-optic cables can be fed through. Thanks to these synergies and partnerships, we aim to extend the fibre-optic network as quickly as possible while minimising costs. Around half of the medium-voltage stations will be interconnected by 2020 – 1,000 via fibre optic cable and 500 via TETRA.'*

*'Today, 10% of the medium-voltage stations, which are distributed throughout the country, are remote-controlled and send their data via our SCADA system,'* adds Gilles Krantz, Head of Power MV. *'At other stations, we carry out a manual check when outages are planned or announced to determine the situation on the entire medium-voltage network as accurately as possible. And when there's a fault and an area is left without supply, we have to deploy teams on site quickly who visit the various stations in the area one after another. When all the medium-voltage stations will be interconnected, it will make our task of management much faster and more efficient. We will have a complete overview of the network in real time and will be able to carry checks completely remotely and accurately pinpoint any faults. The next step is having smart medium-voltage stations which will be able to manage production and consumption at local level on their own.'*



# New premises in Bettembourg at the end of 2020

*'Our professional profiles in both gas and electricity have developed significantly over recent years and are today undergoing a transitional period,' underlines Carlo Bartocci. 'IT has become vitally important, the significance of administrative roles has increased and knowledge of English has become essential since the creation of the European energy market. We also need to upgrade and expand our facilities. A new dispatching site will be built in Bettembourg which we plan to occupy by the end of 2020. Situated in a more secure environment with better surveillance and closer to our SCADA infrastructure and data centre servers in Bettembourg, these new premises will help us to better perform our tasks which are becoming increasingly extensive and complex.'*



# Constant growth and increasing diversity

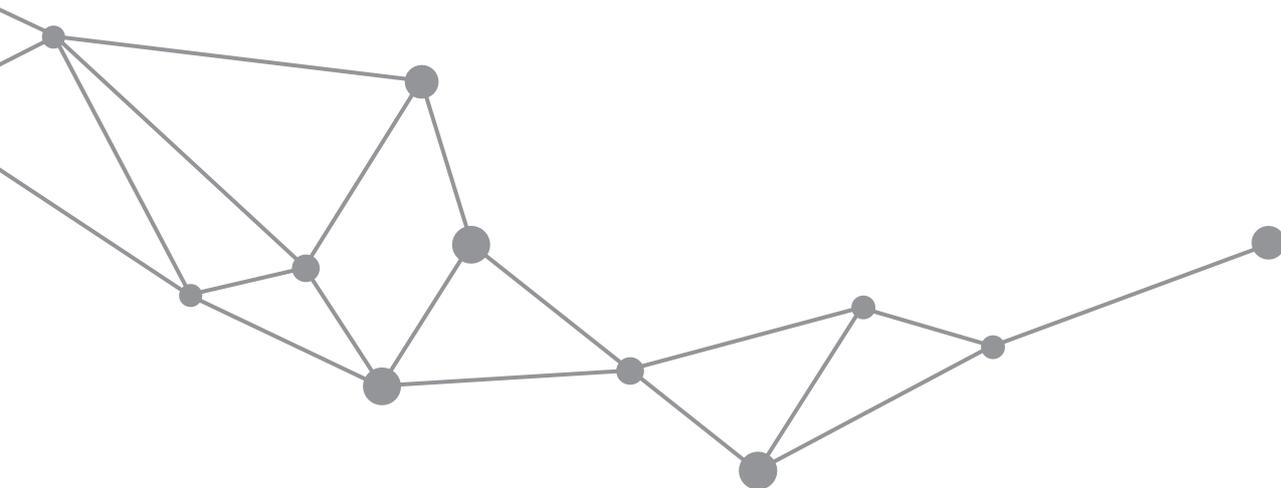
**THE GROWTH OF THE GROUP AND THE EMERGENCE OF NEW TECHNOLOGIES HAS LED TO SIGNIFICANT DIVERSIFICATION OF JOBS AND PROFILES WITHIN CREOS. IN 2017, THE COMPANY RECRUITED 48 NEW EMPLOYEES, WHICH IS FIVE MORE THAN IN THE PREVIOUS YEAR.**

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.

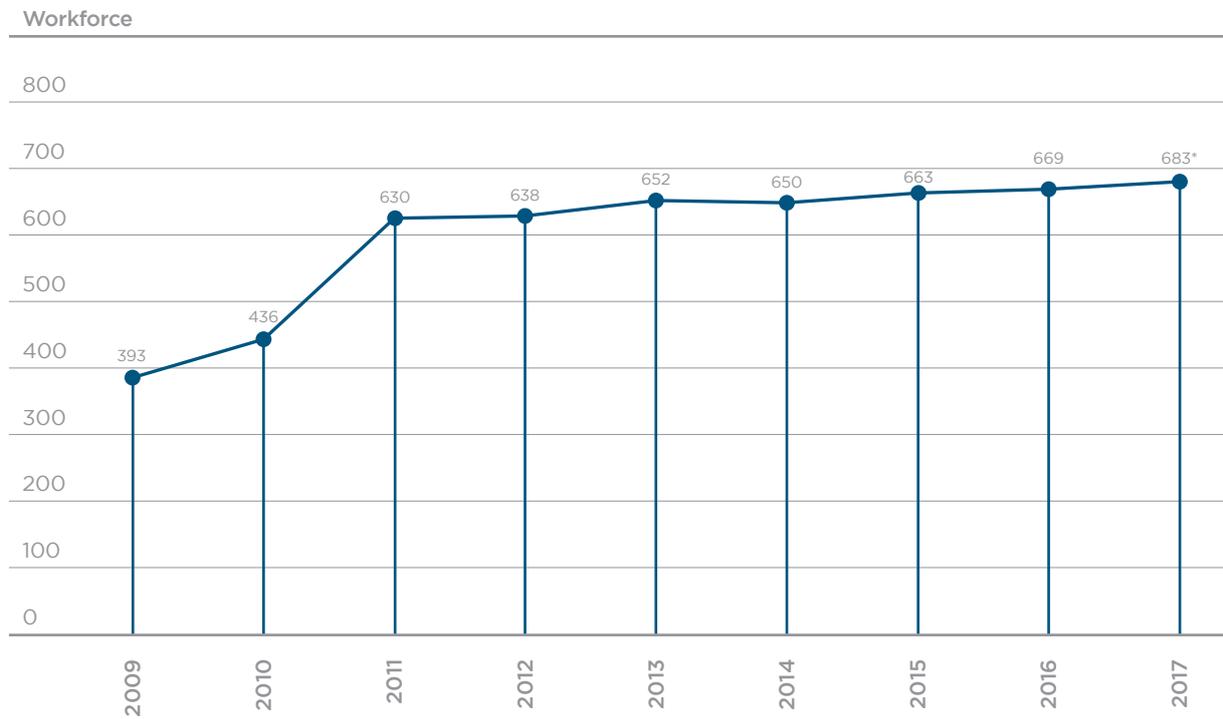
Creos ever since stands out because of the way in which it encourages diversity – whether in terms of nationality, gender or age – and 2017 was no exception. While the vast majority of the workforce is made up of employees from Luxembourg, 10 different nationalities work within the group on a daily basis. 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 22% of the company's workforce as at the end of 2017 were under 30 and of the 48 employees recruited, 13% were young graduates. The Group also has one of the lowest staff turnover rates in the country – 1.86% in 2017 – 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. The total training provided by the company averages 23.6 hours a year per person.

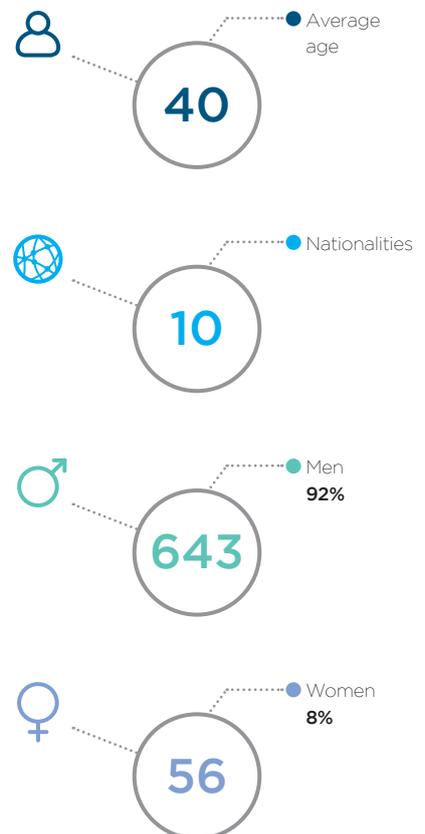
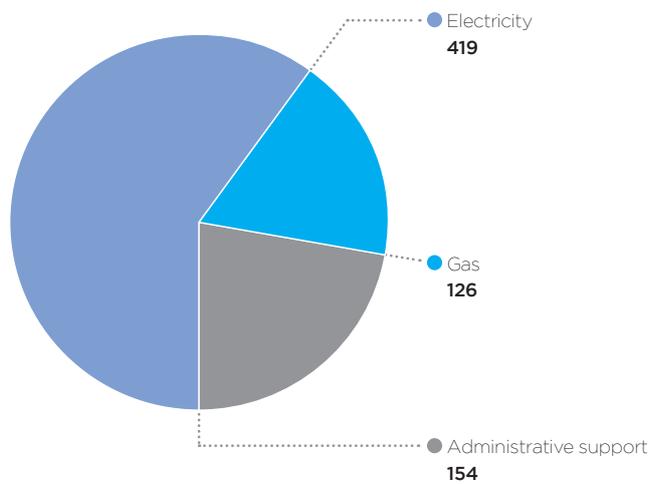


## Evolution of the workforce (average)



\* Headcount on 31 December 2017: 699

## 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.**

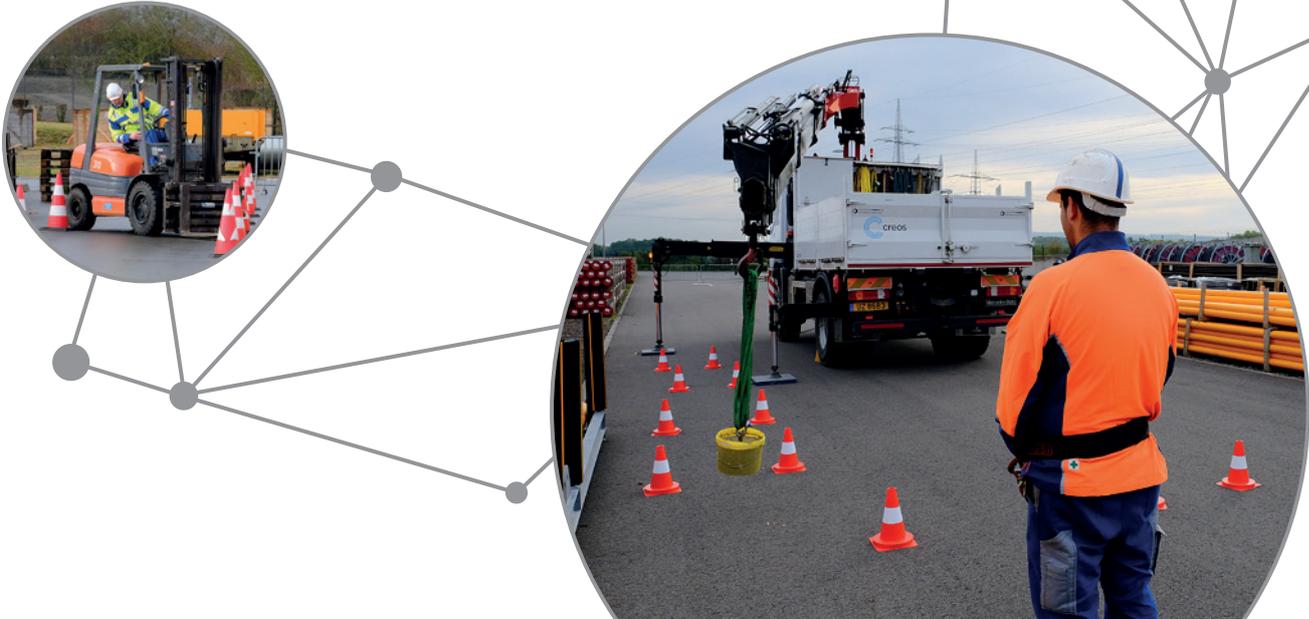
Economic success never outweighs health and safety or environmental protection. No arguments, however important or pressing, justify neglecting these HSE principles.

## 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 organises safety conferences and training courses.

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 organised in 2017 and the number of certificates issued.

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





## Basic training courses\*

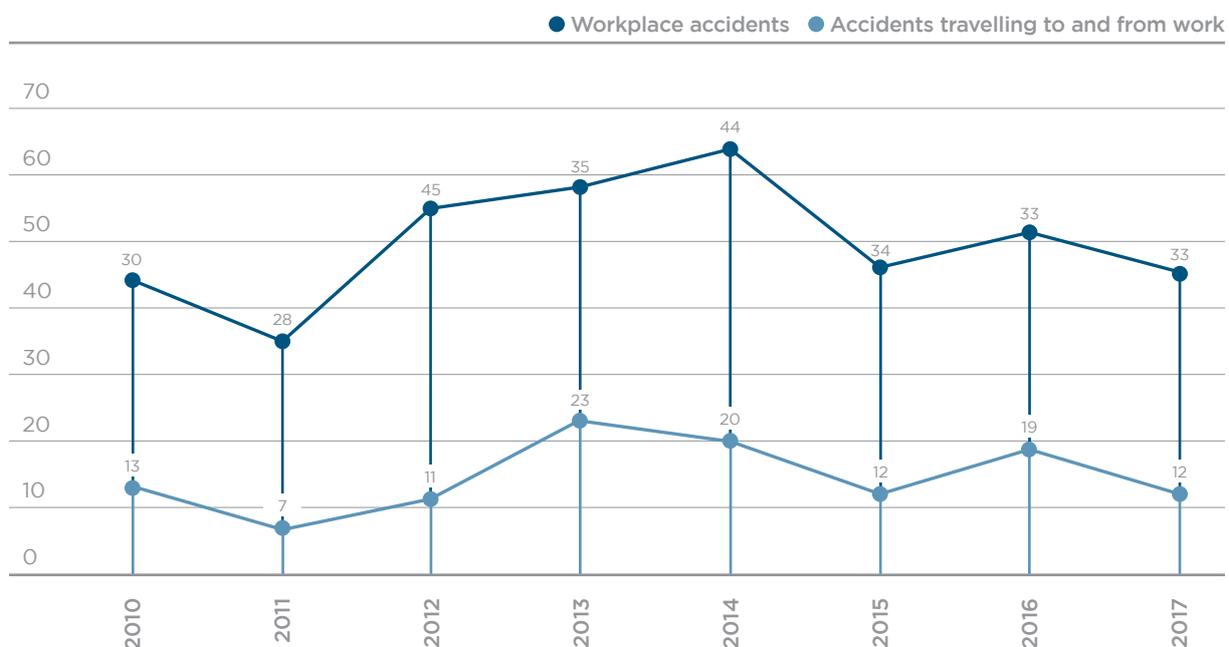
| Domain                           | Designation                                   | Number     |
|----------------------------------|---|------------|
| First aid                        | First aid attendant                           | 58         |
| Gas grid                         | Gas expert (Sachkundiger)                     | 18         |
| Electricity grid                 | Electrical certification (Schaltberechtigung) | 18         |
|                                  | LV live work                                  | 30         |
|                                  | Working at heights                            | 44         |
| Safe machinery operation         | Fork lift operator                            | 4          |
|                                  | Crane driver, truck-mounted crane             | 12         |
|                                  | Crane driver, travelling crane                | 10         |
|                                  | Mobile elevated platforms                     | 0          |
| <b>Total certificates issued</b> |   | <b>194</b> |

## Work-related accident severity rate in 2017

In 2017, Creos recorded a total of 45 accidents of which 22 were minor and 23 involved more than 3 days of incapacity. The main causes were accidents travelling to and from work (33%), falls (11%), and slips and trips (9%).

The rate of serious accidents at Creos rose to 0.3 in 2017, which is below the maximum goal set at 0.5. The definition of this rate is the ratio of lost calendar days to the total productive (working) hours multiplied by 1,000.

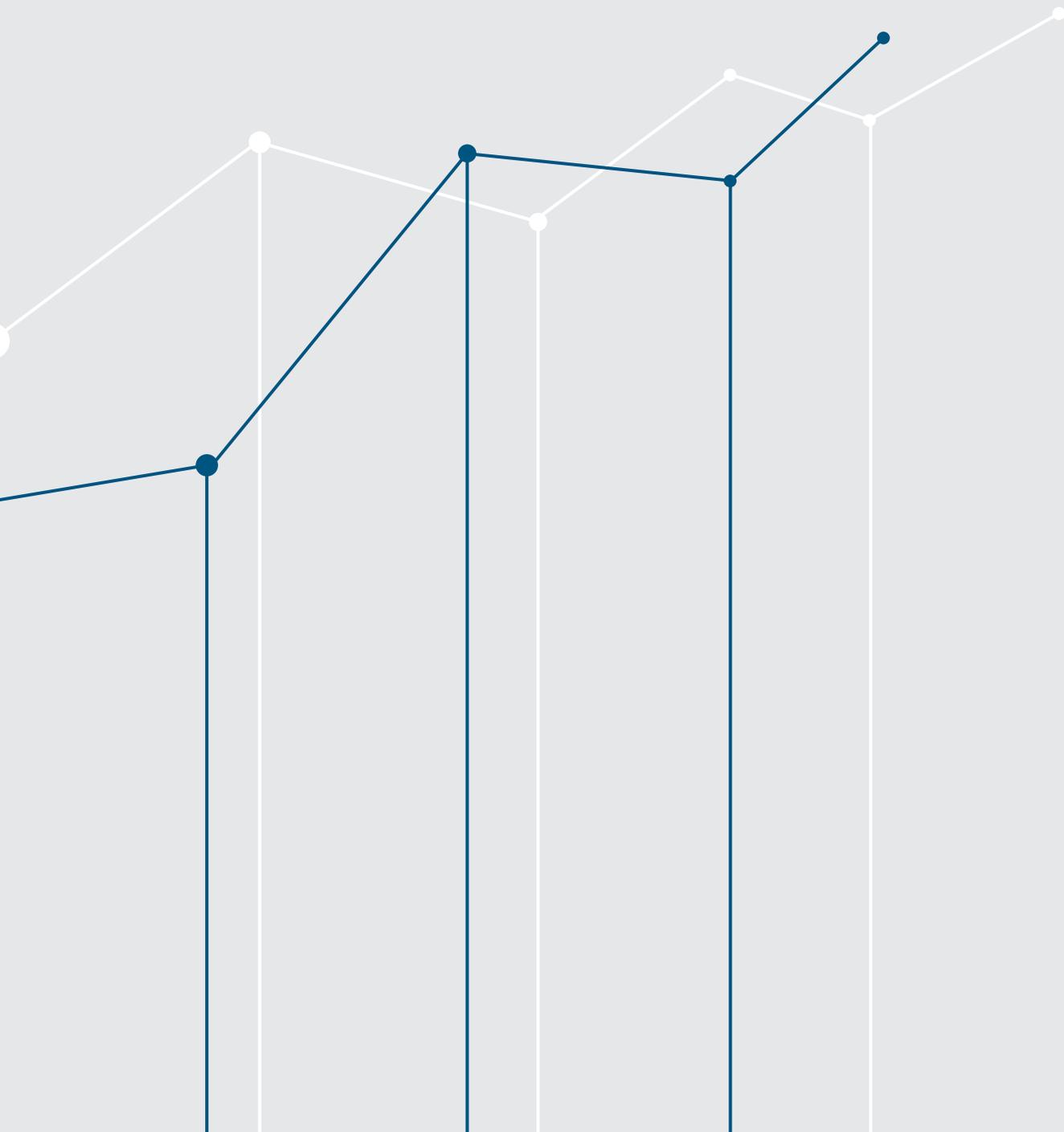
## Number of accidents



\* "Refresher" courses are not included.



## 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

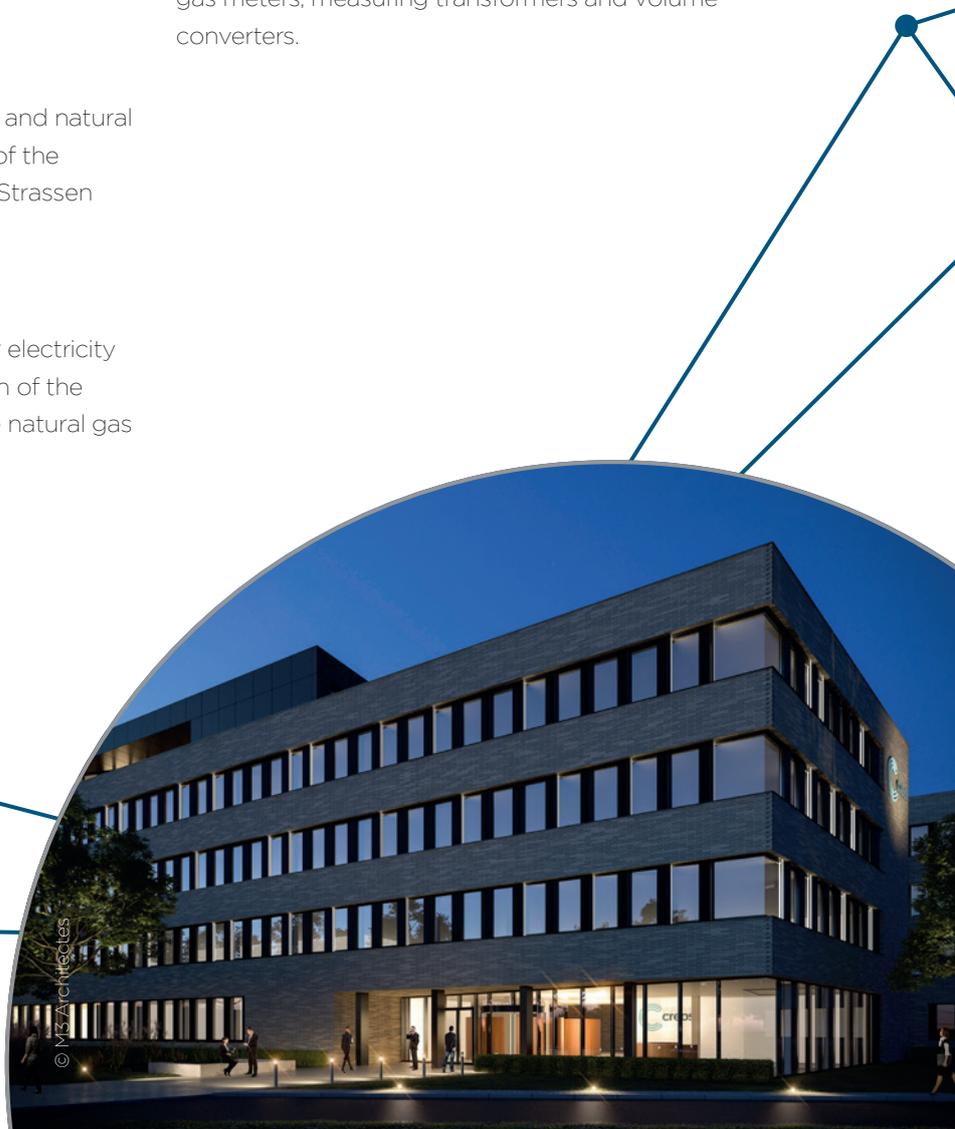
The Luxembourg City Centre (electricity and natural gas) covers the highly populated areas of the capital and the nearby municipalities of Strassen and Hesperange.

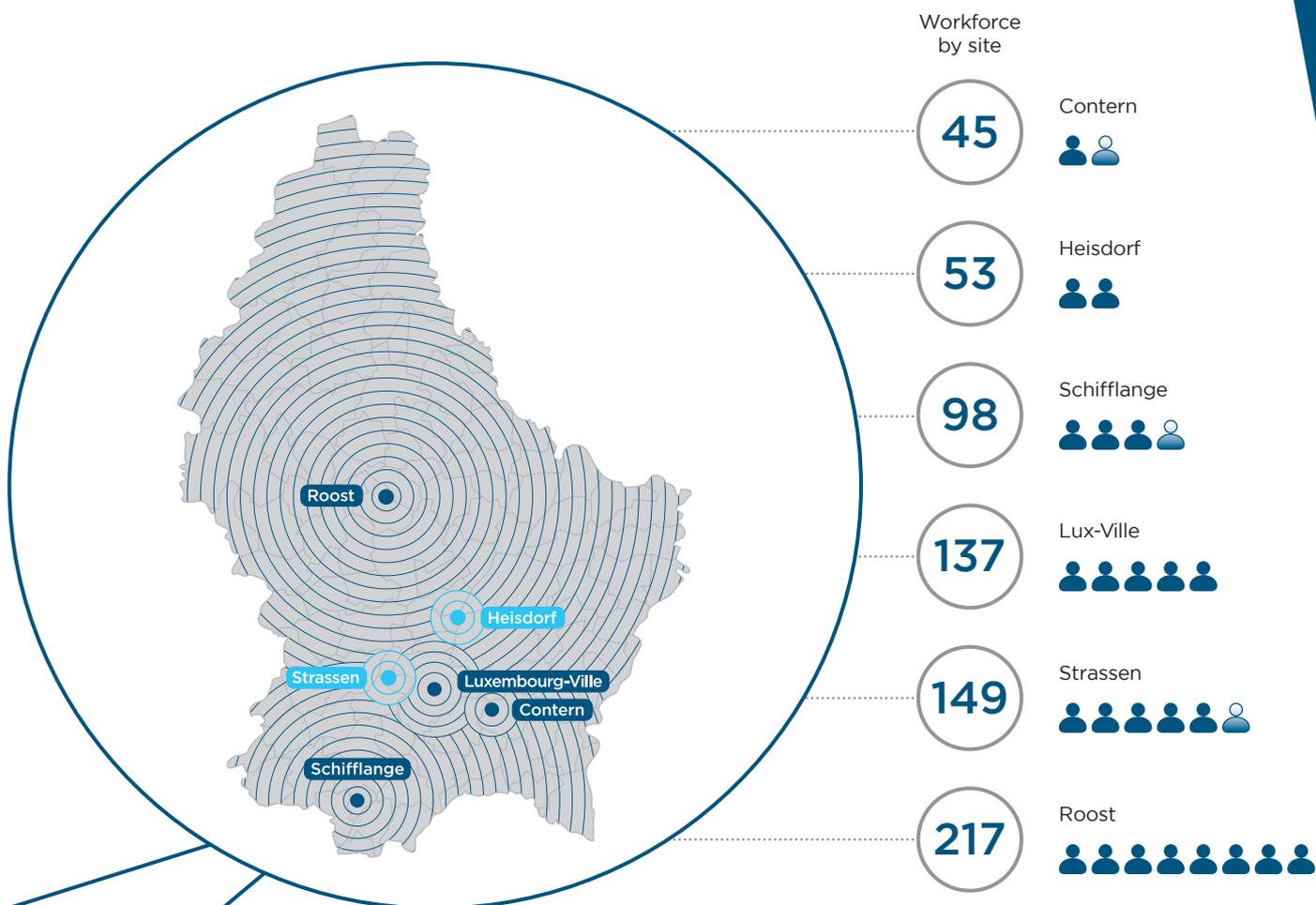
## SCHIFFLANGE

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

## CONTERN

In spring 2016, the Creos Metering Services moved to the Contern Centre. 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 is in Strassen.

### BOVÉ PROJECT

After the acquisition at the end of 2015 of 2.8 hectares of land on rue Nicolas Bové, Creos is planning construction of its new headquarters and operation Centre in the city of Luxembourg. Excavation work already began in the summer of 2017. The buildings meet sustainable development criteria, with the goal of DGNB 'platinum' certification. Pre-certification was obtained at the end of 2017.

### PROJET BETTEMBOURG

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.

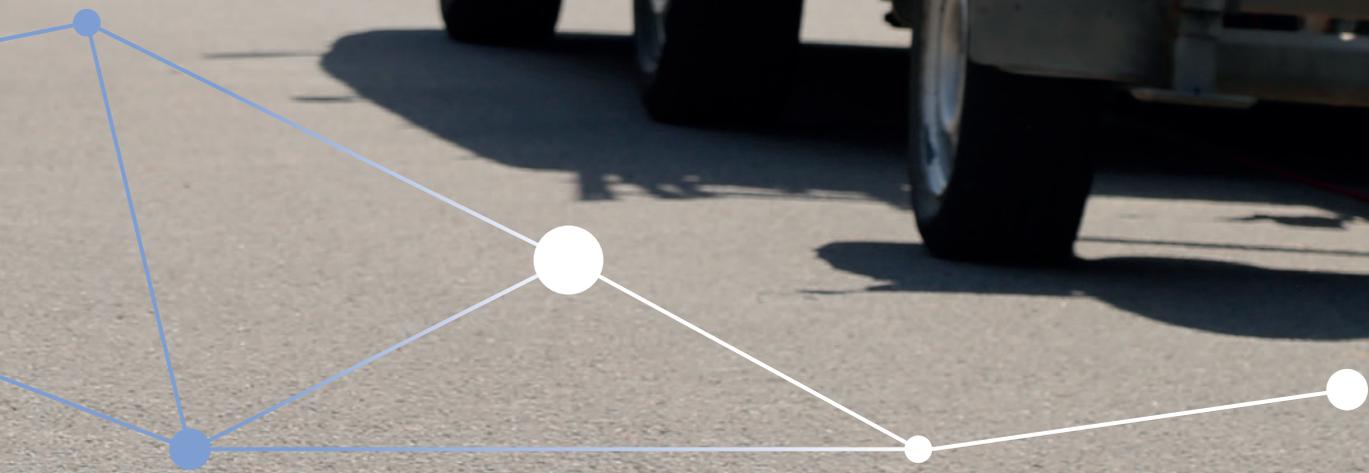
### MERSCH

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 former Creos buildings in Mersch. The site, managed by the Luxembourg Red Cross, has total capacity of 320 beds.

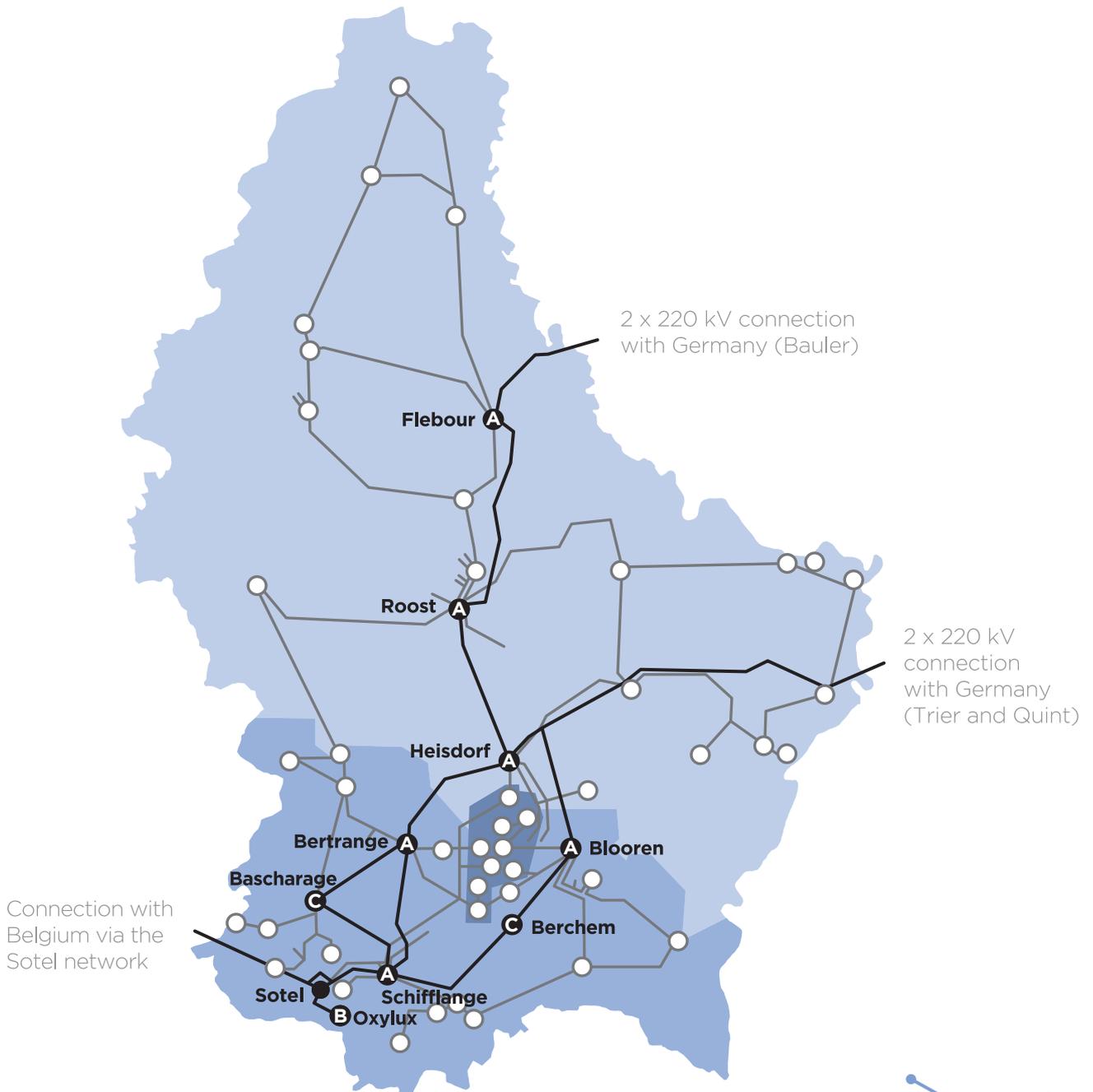




# Electricity



# The electricity transmission grid



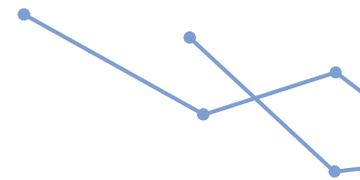
— 220 kV - network

— 65 kV - network

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

**B** Substation 220/20 kV

**C** Substation 220 kV





# Technical activity

## Projects completed on the 220 kV grid during 2017

In order to maintain an infrastructure capable of meeting and supporting growing demand for electricity from both the public and industry, Creos's 220 kV projects during 2017 focused on boosting supply capacity and securing supply on some sections of its 220 kV grid.

### Heisdorf-Bertrange connection

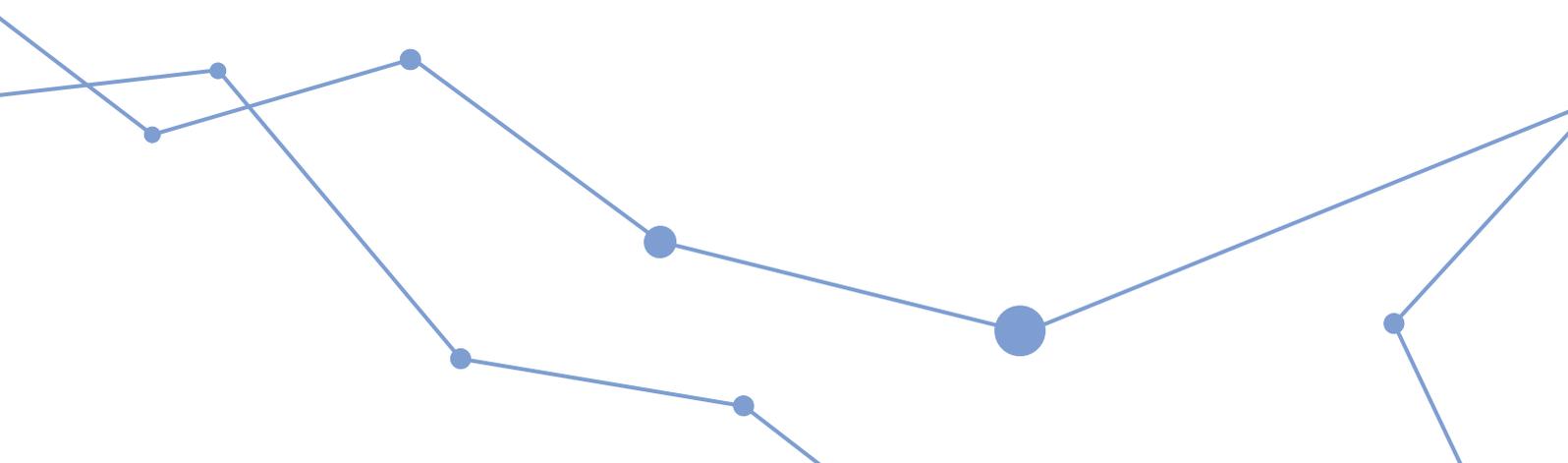
The Heisdorf-Bertrange connection has been upgraded to increase its transmission capacity. This was achieved by extending some pylons and installing new conductors. These modifications will enable a significant increase in supply capacity in the south of the country and will help to secure supply on the Creos grid.

### The Bertrange station

Major upgrading work was carried out at the Bertrange station on protection and control equipment of the power grid. This is in the process of completion and will enable the operational security of the grid to be maintained to the highest standard.

### 220 kV Belgium-Luxembourg interconnection

The interconnection between the Belgian and Luxembourg networks has been operational for several months. In addition to the four interconnection lines with Germany, this will contribute to improving the security of the nation's supply.





# Evolution of the electricity grid

|                                 |                                     |                      | 2017           | 2016           |
|---------------------------------|-------------------------------------|----------------------|----------------|----------------|
| <b>Transformer substations</b>  | 220 kV Phase shift transformer      | (number)             | 1              | -              |
|                                 | 220 kV                              | (number)             | 1              | 1              |
|                                 | 220/65/20 kV                        | (number)             | 6              | 5              |
|                                 | 220/20 kV                           | (number)             | 1              | 1              |
|                                 | 65 kV                               | (number)             | 3              | 3              |
|                                 | 65/20 kV                            | (number)             | 36             | 40             |
|                                 | 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)             | 2,605          | 2,579          |
| <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)     | 1.9            | 1.9            |
|                                 | 220 kV 2 3-phase lines              | underground (km)     | 10.5           | 10.5           |
|                                 | <b>Total 220 kV (km)</b>            |                      | <b>149.9</b>   | <b>149.9</b>   |
|                                 | 65 kV 1 3-phase line                | overhead (km)        | 178.2          | 195.4          |
|                                 |                                     | underground (km)     | 27.5           | 24.8           |
|                                 | 65 kV 2 3-phase lines               | overhead (km)        | 183.2          | 185.5          |
|                                 |                                     | underground (km)     | 47.1           | 29.4           |
|                                 | <b>Total 65 kV (km)</b>             |                      | <b>436.1</b>   | <b>435.1</b>   |
|                                 | <b>Medium-voltage lines</b>         | 20 kV + 5 kV         | overhead (km)  | 1,011.4        |
|                                 |                                     | underground (km)     | 2,521.5        | 2,467.5        |
| <b>Total MV (km)</b>            |                                     | <b>3,532.9</b>       | <b>3,511.3</b> |                |
|                                 |                                     | Underground rate (%) | 71.4           | 70.3           |
| <b>Low-voltage lines</b>        | 400/230 V                           | overhead (km)        | 297.6          | 299.9          |
|                                 |                                     | underground (km)     | 5,366.6        | 5,306.3        |
|                                 | <b>Total LV (km)</b>                |                      | <b>5,664.1</b> | <b>5,606.2</b> |
|                                 |                                     | Underground rate (%) | 94.7           | 94.7           |
| <b>Total (km)</b>               |                                     | <b>9,783.0</b>       | <b>9,702.5</b> |                |
| <b>Chargy charging stations</b> | (number)                            | 100                  | -              |                |

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

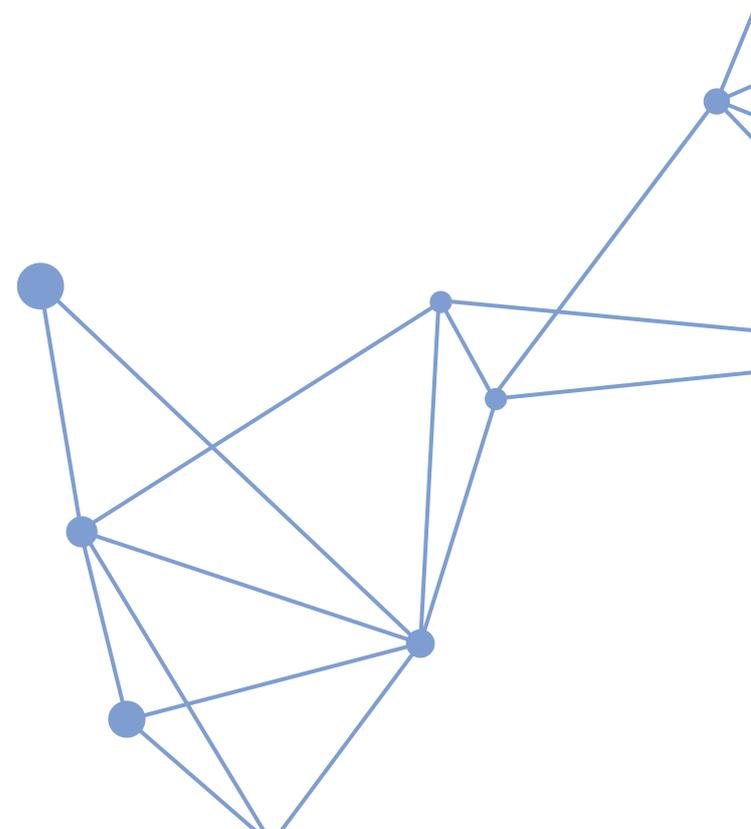
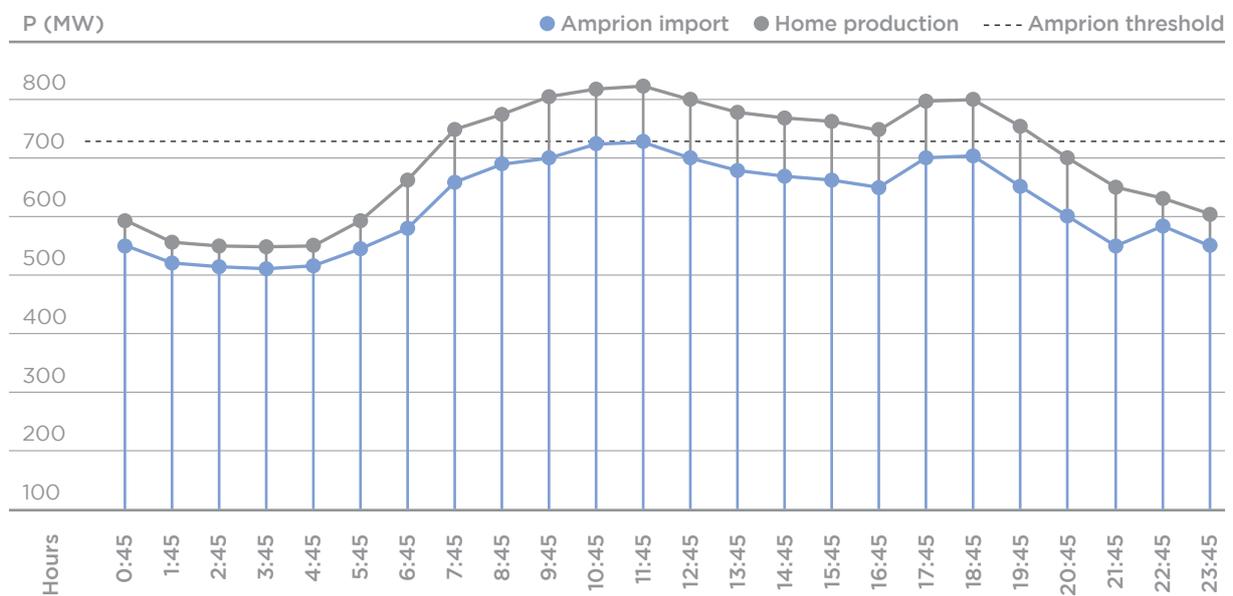
# Evolution of the national load

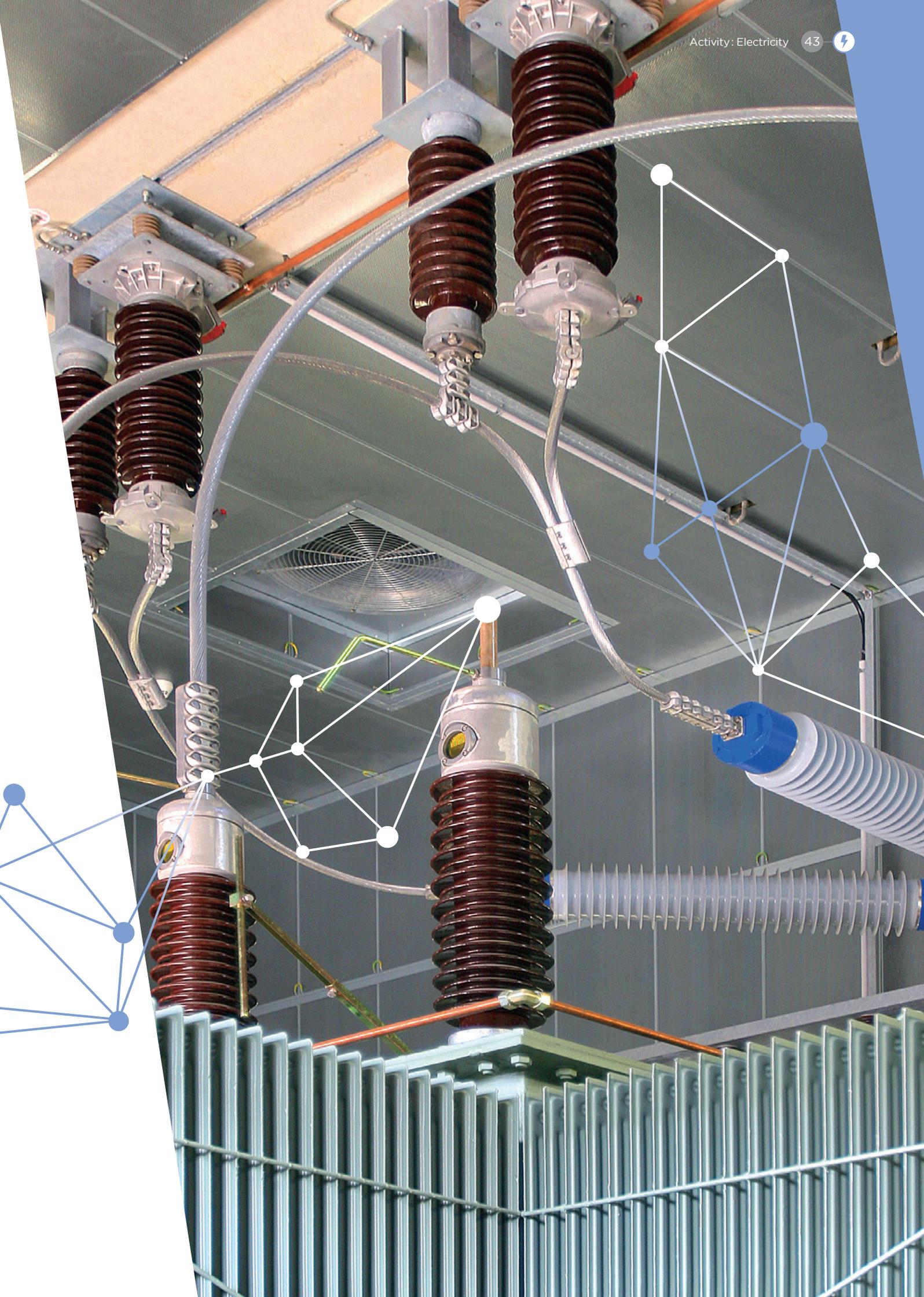
The national peak demand in 2017 was 828.8 MW, compared to 795.0 MW in 2016. This peak was recorded at 11:45 a.m. on 25 January 2017.

The energy peak in 2017 imported via the Amprion lines was 729.4 MW on 24 January 2017 at 11:45 (compared to 676.4 MW on 6 December 2016).

The usage time of the electricity grid for 2017 amounted to 6,193 hours. Therefore, the maximum rate of use of the grid was 70.7%.

## Evolution of the national load during the day of 24.01.2017





# Total electricity consumption

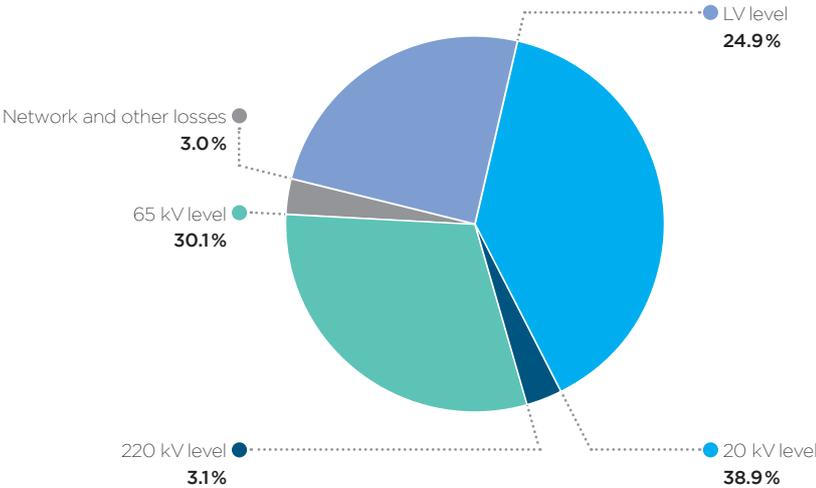
The total volume of electricity fed into the grid at national level via

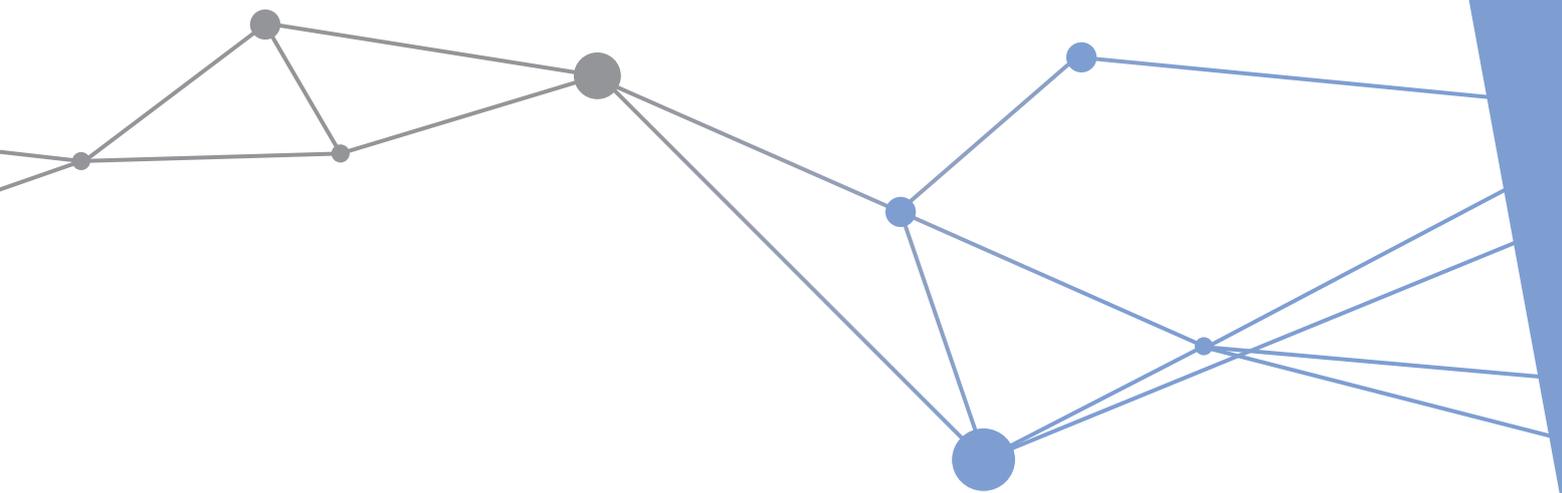
- 220 kV interconnection lines,
- self-generated electricity (with metering on customer sites) or,
- local generation sources connected to Creos networks or to those of the four municipal or private distributors,

amounted to 5,132.5 GWh in 2017 (5,048.2 GWh in 2016), corresponding to an increase of 1.7% in national consumption. The flows coming from the PST have not been taken into account for this statistics.

## Consumption by voltage level

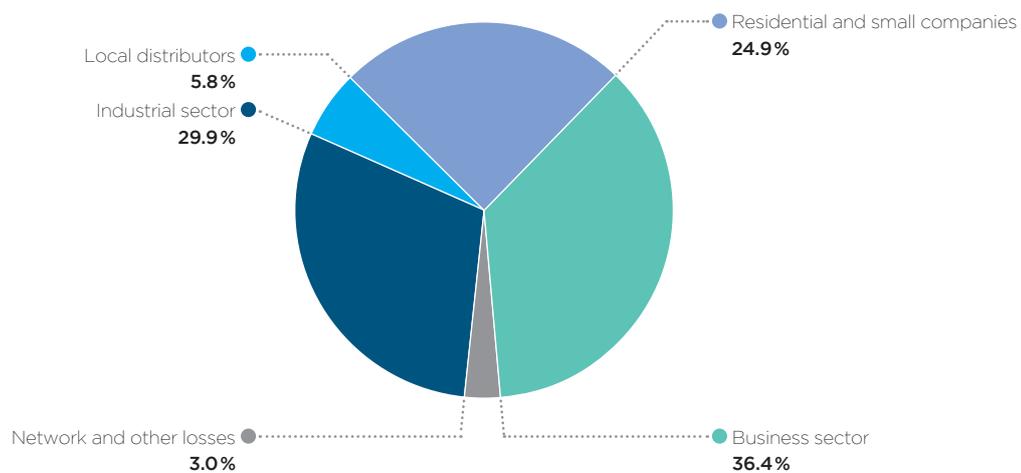
|                                 |       | 2017           | 2016           | Variation    |
|---------------------------------|-------|----------------|----------------|--------------|
| <b>Consumption</b>              |       |                |                |              |
| 220 kV level                    | (GWh) | 157.6          | 99.3           | +58.7%       |
| 65 kV level                     | (GWh) | 1,545.6        | 1,507.1        | +2.6%        |
| 20 kV level                     | (GWh) | 1,997.9        | 1,993.3        | 0%           |
| LV level                        | (GWh) | 1,275.5        | 1,290.8        | -1.2%        |
| <b>Network and other losses</b> |       |                |                |              |
|                                 | (GWh) | 155.9          | 157.8          | 0%           |
| <b>Total</b>                    | (GWh) | <b>5,132.5</b> | <b>5,048.2</b> | <b>+1.7%</b> |





## Consumption by sector

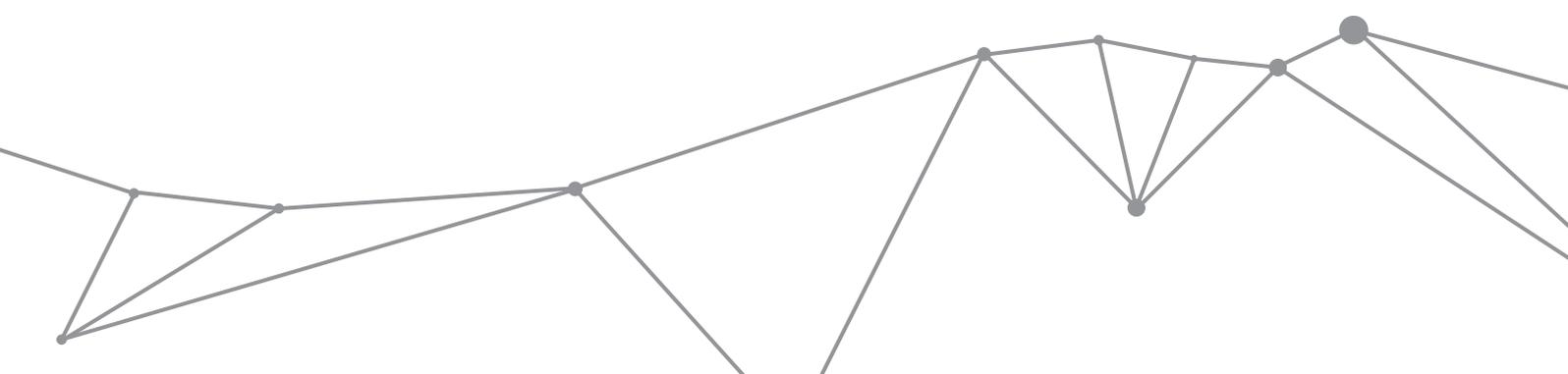
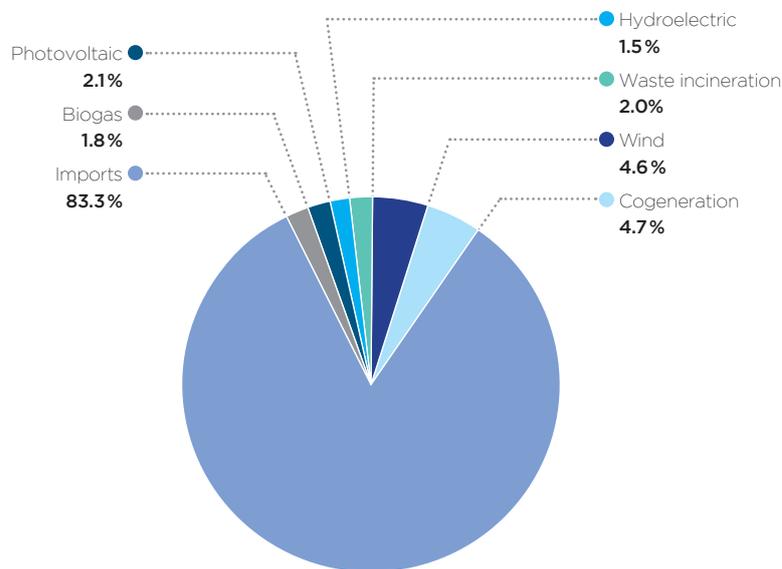
|                                 |       | 2017           | 2016    | Variation |
|---------------------------------|-------|----------------|---------|-----------|
| <b>End customers</b>            |       |                |         |           |
| Industrial sector               | (GWh) | 1,534.8        | 1,441.7 | +6.5%     |
| Business sector                 | (GWh) | 1,869.0        | 1,862.4 | +0.4%     |
| Residential and small companies | (GWh) | 1,275.5        | 1,290.8 | -1.2%     |
| <b>Local distributors</b>       |       |                |         |           |
|                                 | (GWh) | 297.4          | 295.6   | +0.6%     |
| <b>Network and other losses</b> |       |                |         |           |
|                                 | (GWh) | 155.9          | 157.8   | -1.2%     |
| <b>Total</b>                    | (GWh) | <b>5,132.5</b> | 5,048.2 | +1.7%     |



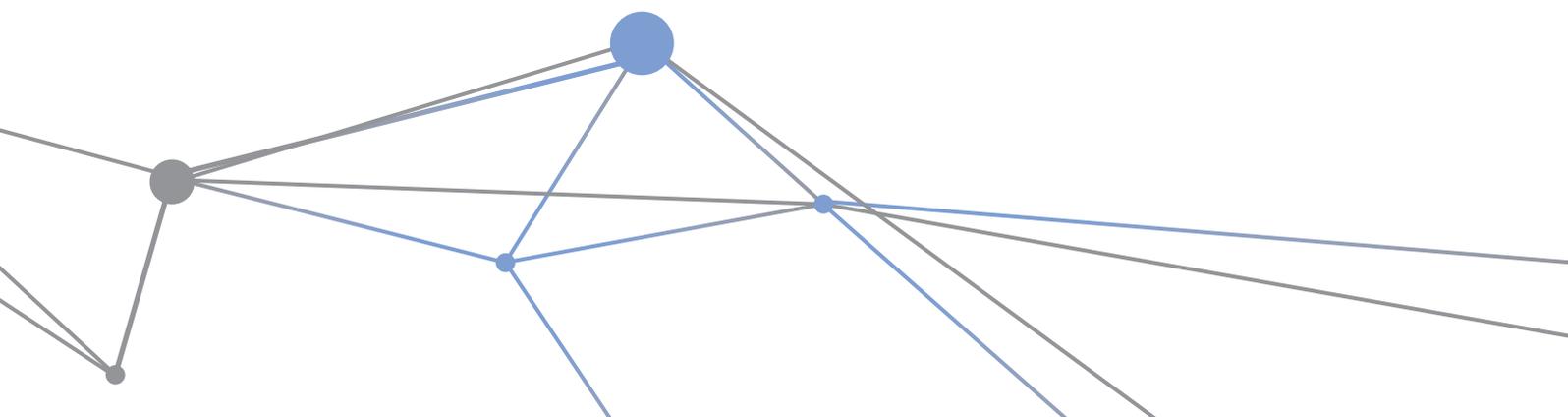
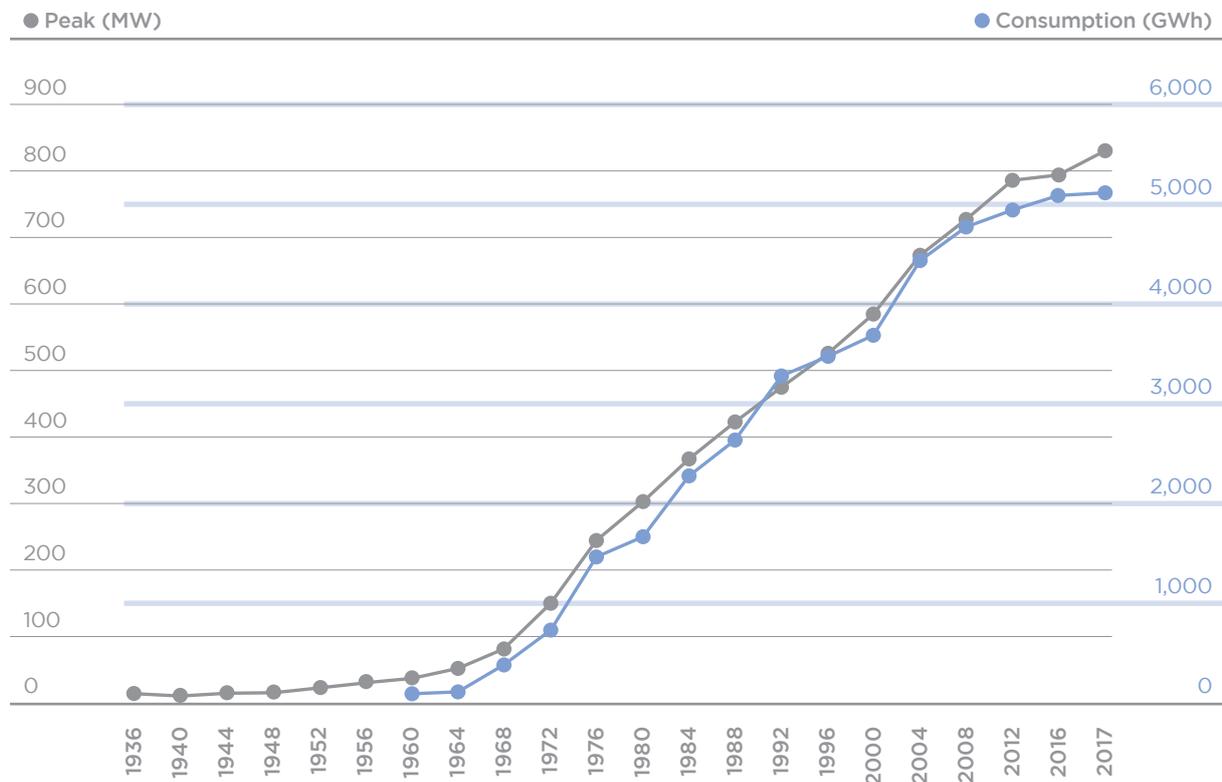
# Injections into the electricity network

|                               |       | 2017           | 2016    | Variation |
|-------------------------------|-------|----------------|---------|-----------|
| <b>Cross-border exchanges</b> |       |                |         |           |
| Imports                       | (GWh) | <b>4,275.2</b> | 4,313.7 | -0.9%     |
| <b>Home production</b>        |       |                |         |           |
| Cogeneration                  | (GWh) | <b>243.6</b>   | 275.7   | -11.6%    |
| Hydroelectric*                | (GWh) | <b>74.7</b>    | 99.1    | -24.6%    |
| Wind*                         | (GWh) | <b>234.5</b>   | 101.3   | +131.5%   |
| Waste incineration*           | (GWh) | <b>104.5</b>   | 93.6    | +11.6%    |
| Biogas*                       | (GWh) | <b>90.3</b>    | 63.3    | +42.7%    |
| Photovoltaic*                 | (GWh) | <b>109.7</b>   | 101.5   | +8.1%     |
| <b>Total</b>                  | (GWh) | <b>5,132.5</b> | 5,048.2 | +1.7%     |

\* 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.

In recent years, Creos has taken first place in a European ranking of average annual downtime of supply to clients connected to the low-voltage 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 94.7% of its low-voltage power lines and 71.4% of its medium-voltage lines underground, representing over 7,900 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, unauthorised 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.

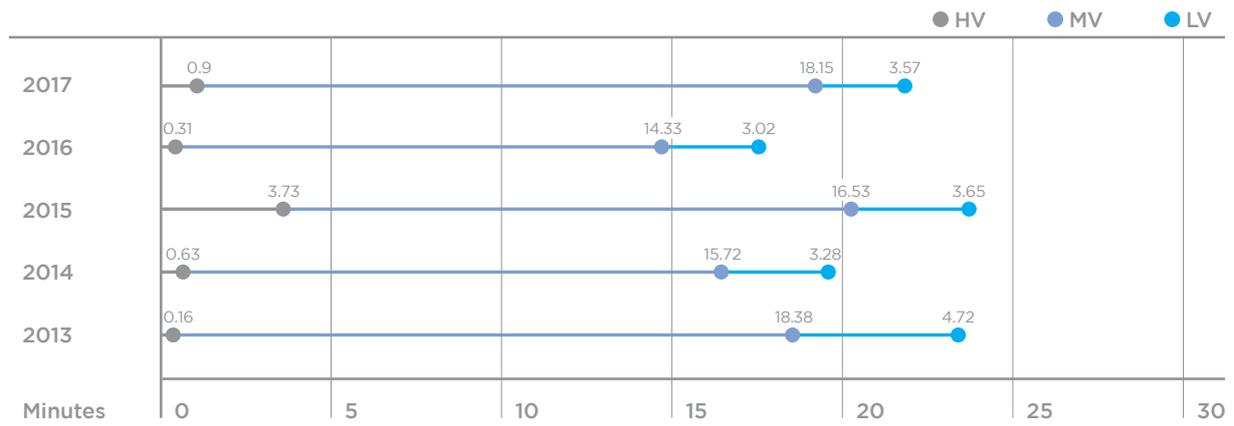
Creos strives to reduce to a strict minimum incidents on the grid and the interruptions in supply which can result.

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 optimising network operation and avoiding inconvenient outages for clients. Today, this technique is used for numerous interventions on electrical installations.

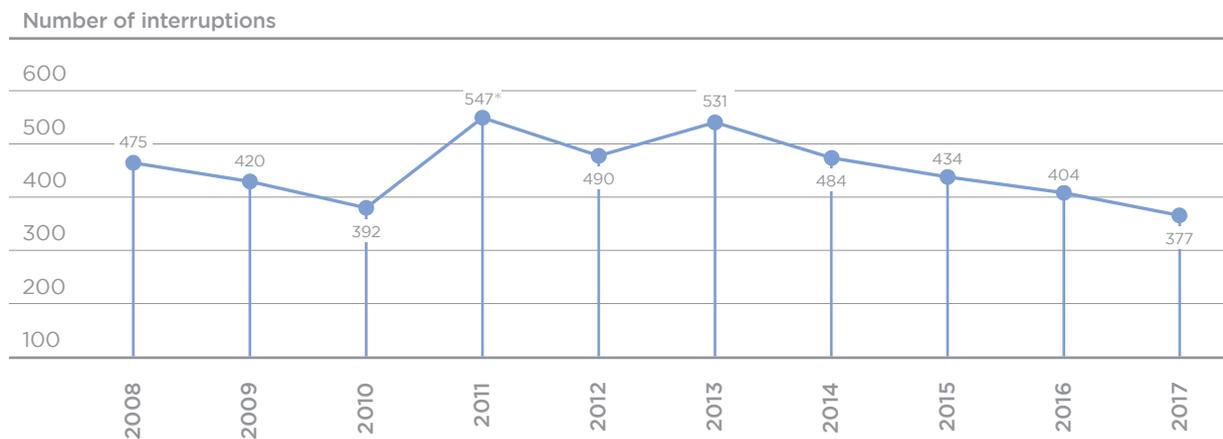
## Total length of overhead lines



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

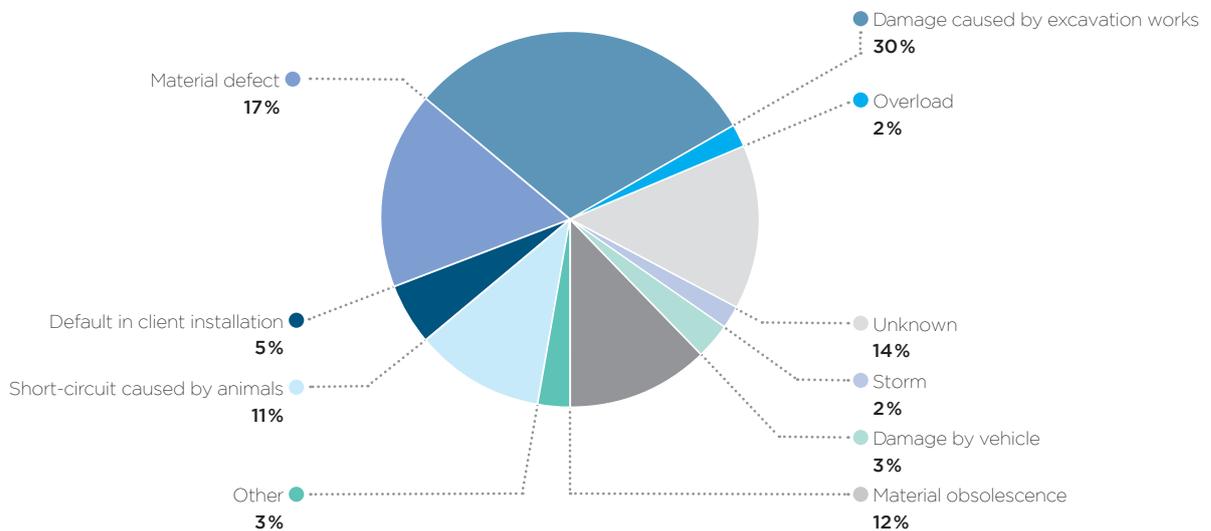


## Perceptible LV-interruptions (>3 min) 2008-2017



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

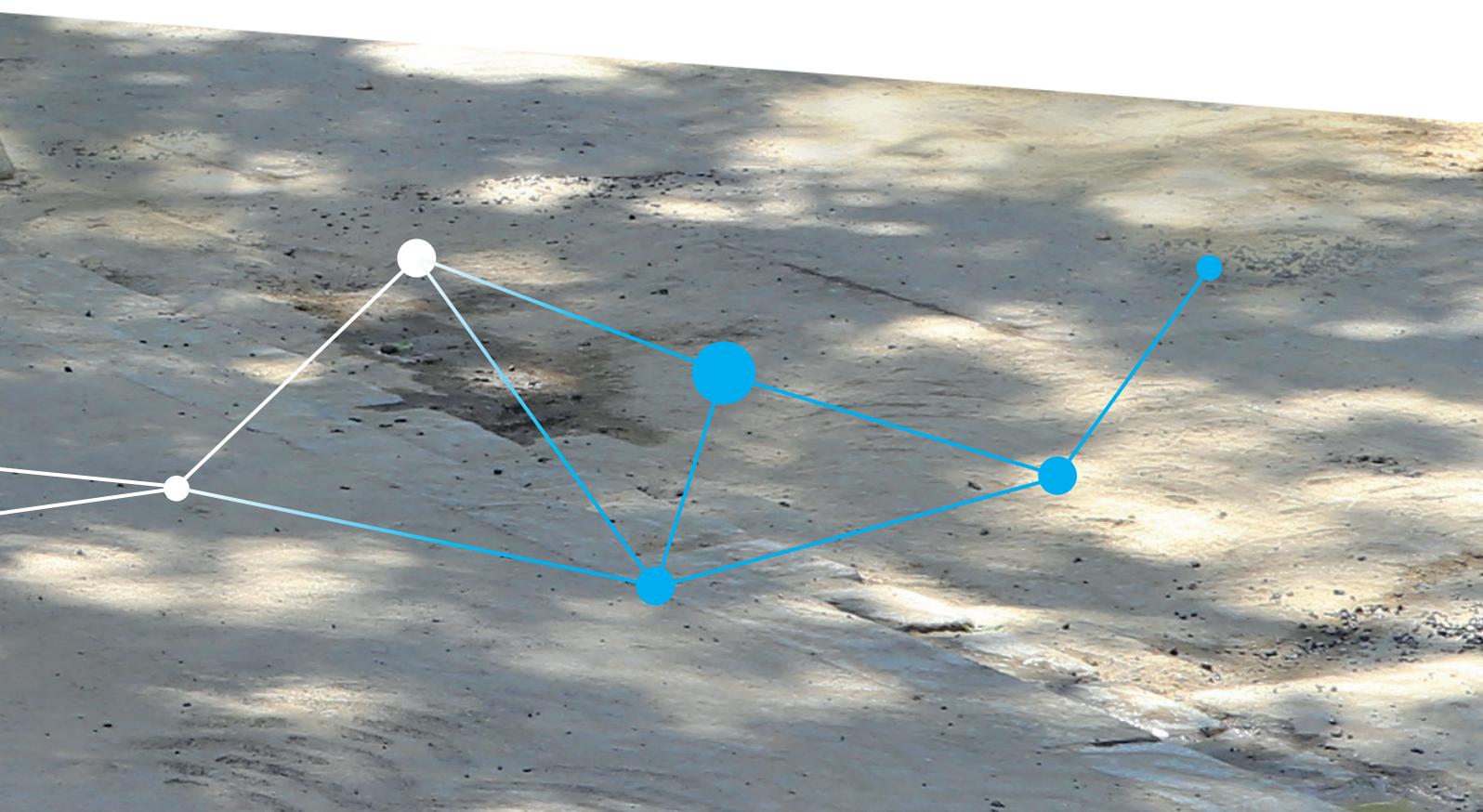
## Causes of LV-interruptions



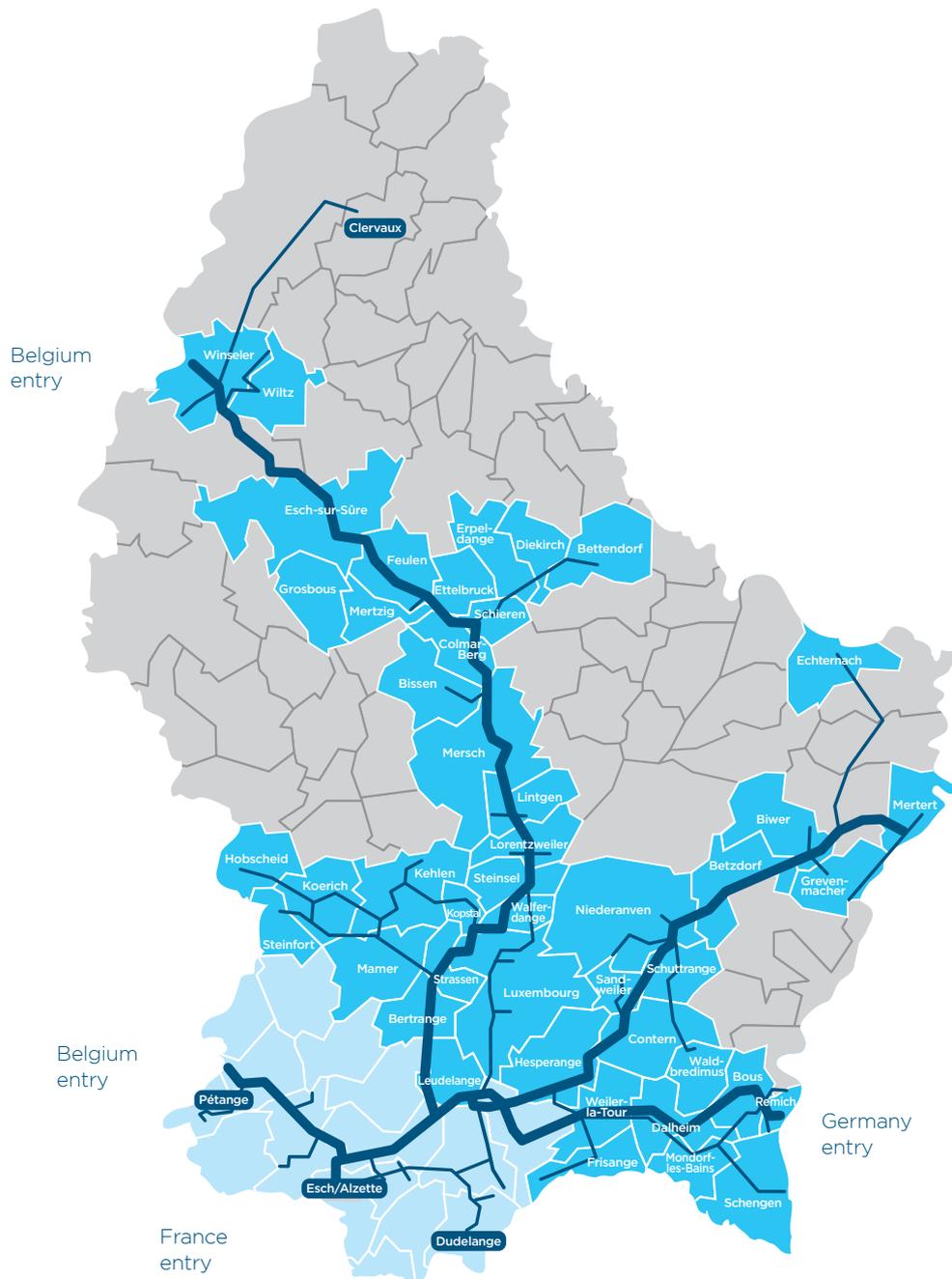




# Gas



# 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

## Transmission grid

### The Schiffflange Centre

#### Bertrange project

During the 2017 financial year, a new pressure-reducing station with three medium-pressure/low-pressure exit points was installed on the high-pressure transport grid between Pontpierre and Tossenbergy.

Creos carried out this project with the following objectives:

- one new medium-pressure exit point (PN10) in the direction of Windhof: increased security of supply for the municipalities of Mamer, Steinfort, Koerich and Kehlen ;
- two new medium/low pressure exit points in the direction of the municipality of Bertrange: improvement of the medium/low pressure distribution grid in the municipality of Bertrange.

In the light of accelerated economic development and a continual increase in natural gas consumption in the above municipalities, Creos identified the need to upgrade its infrastructure over the long-term in the western region of the Grand Duchy.

#### Bissen project

The objective of this project was the replacement of a pressure-reducing station in Bissen.

The new pressure-reducing station is connected to the high-pressure transport network (PN 16), and contributes to ensuring security of supply in the municipality of Bissen.

## Distribution grid

### Roost Centre

The continual upgrading of our facilities required the construction of a new interconnection on the medium-pressure distribution grid between the municipalities of Bertrange and Windhof during the 2017 financial year.

The next step, before commissioning in 2018, will be pressure testing on a 12-kilometre section.

Creos also extended its medium-pressure grid towards Olingen (1.7 km) in 2017.

### Luxembourg City Centre

In view of the new "Ban de Gasperich" district, Creos created a new connection between Alzingen and Howald in 2017 to secure and enhance its medium-pressure grid.

In Luxembourg City, the upgrading of the distribution grid (8.5 km MP/LP) and the replacement of connections (620 x) have continued, thanks to intensive efforts.

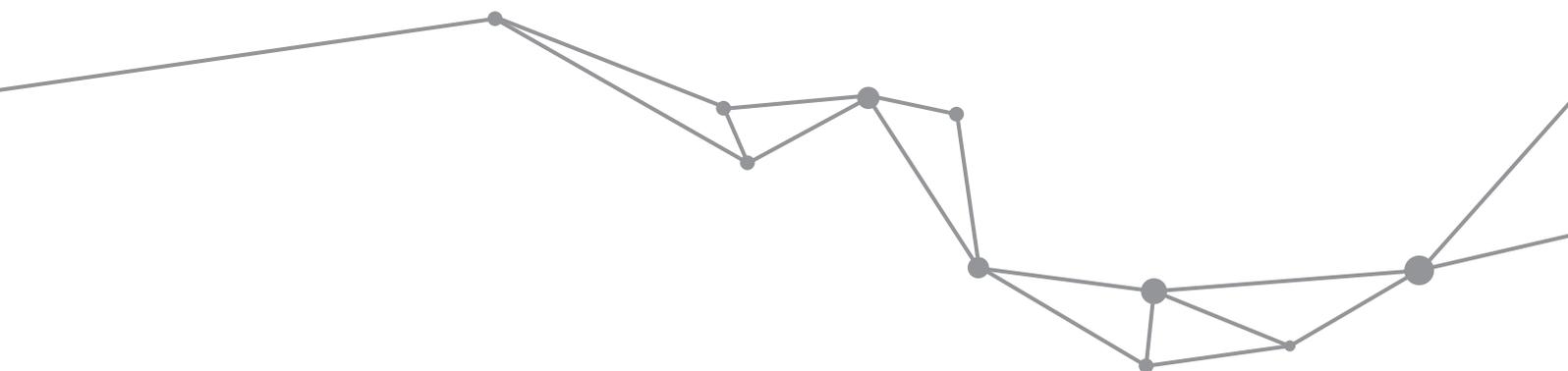
In general, the work on completing and upgrading the medium-pressure grid covering 12.7 km (Hollerich: 0.5 km / Roost: 12.2 km) continued in 2017. The extension of the low-pressure distribution grid in the municipalities continued with the same workload as during the previous year (Hollerich: 1.2 km / Roost: 17.1 km)

In total, 31 km of distribution lines were laid during the 2017 financial year.

# Evolution of the natural gas grid

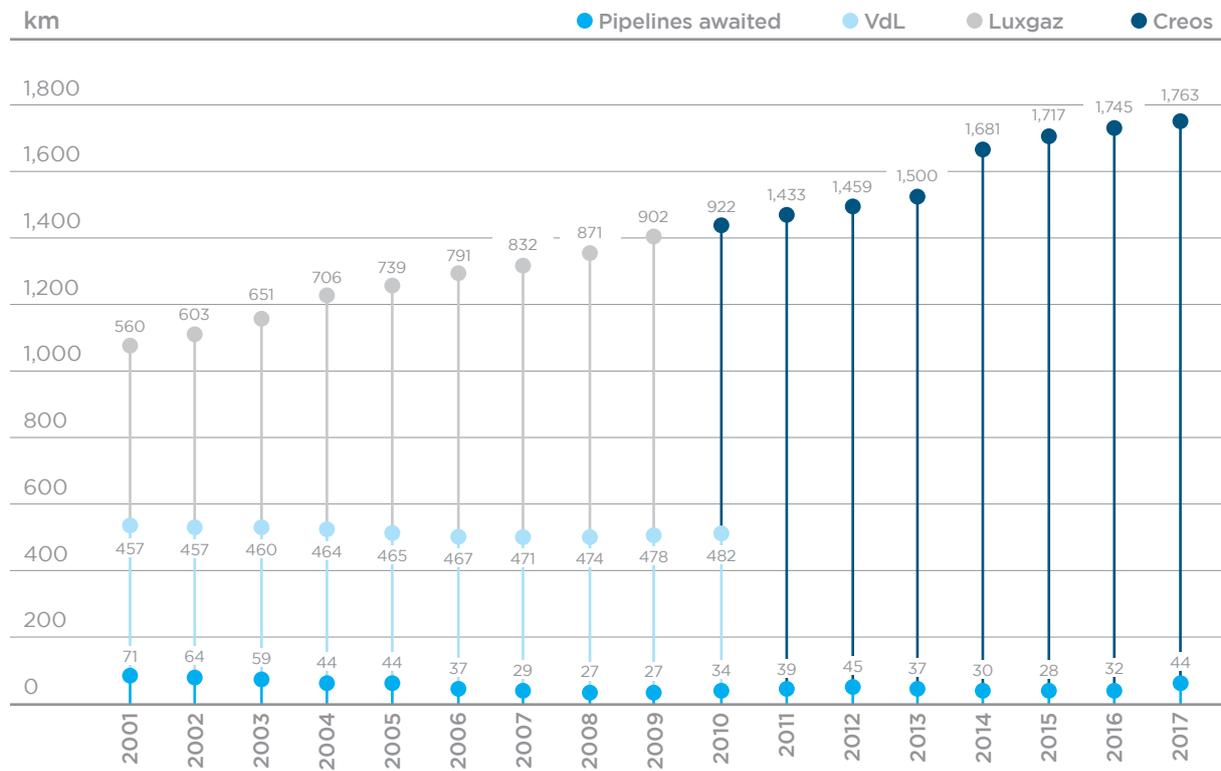
|  |          | 2017           | 2016    |
|--|----------|----------------|---------|
| <b>Length of the grid by activity</b>                          |          |                |         |
| TSO (transmission)   | (km)     | 281.8          | 281.8   |
| DSO (distribution)*  | (km)     | 1,808.5        | 1,777.5 |
| <b>Total</b>   | (km)     | <b>2,090.3</b> | 2,059.3 |
| <b>Length of the grid by PN (nominal pressure)</b>             |          |                |         |
| PN 80/67.5   | (km)     | 215.0          | 215.0   |
| PN 40  | (km)     | 39.4           | 39.4    |
| PN 25  | (km)     | 2.1            | 2.1     |
| PN 16  | (km)     | 22.8           | 22.8    |
| PN 4   | (km)     | 2.5            | 2.5     |
| <b>Total</b>   | (km)     | <b>281.8</b>   | 281.8   |
| <b>Pressure-reduction substations on the transmission grid</b> |          |                |         |
| Border substations   | (number) | 4              | 4       |
| Active stations (with teletransmission capability)             | (number) | 59             | 59      |
| <b>Total</b>   | (number) | <b>63</b>      | 63      |

\* pipelines in service and awaited





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



At 31 December 2017, the Creos distribution network consisted of 1,808.5 km of laid pipelines, of which 1,763.5 km were in service and 44.9 km pressurised with air, pending implementation.

# Total volume transported

In 2017, the volume carried on the transmission network amounted to a total of 8,957 GWh, -2.2% compared to 2016.

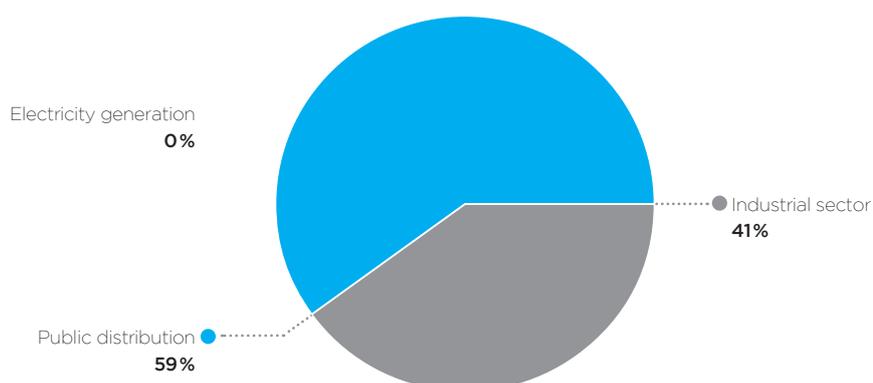
|  |                      | 2017         | 2016    | Variation |
|--|----------------------|--------------|---------|-----------|
| Total capacity reserved for transmission | (Nm <sup>3</sup> /h) | 319,000      | 319,000 | 0.0%      |
| Gas grid peak                            | (Nm <sup>3</sup> /h) | 205,988      | 204,780 | +0.5%     |
| <b>Total volume carried</b>              | (GWh)                | <b>8,957</b> | 9,165   | -2.2%     |

# Total demand on the Luxemburgish market

## Total demand by sector

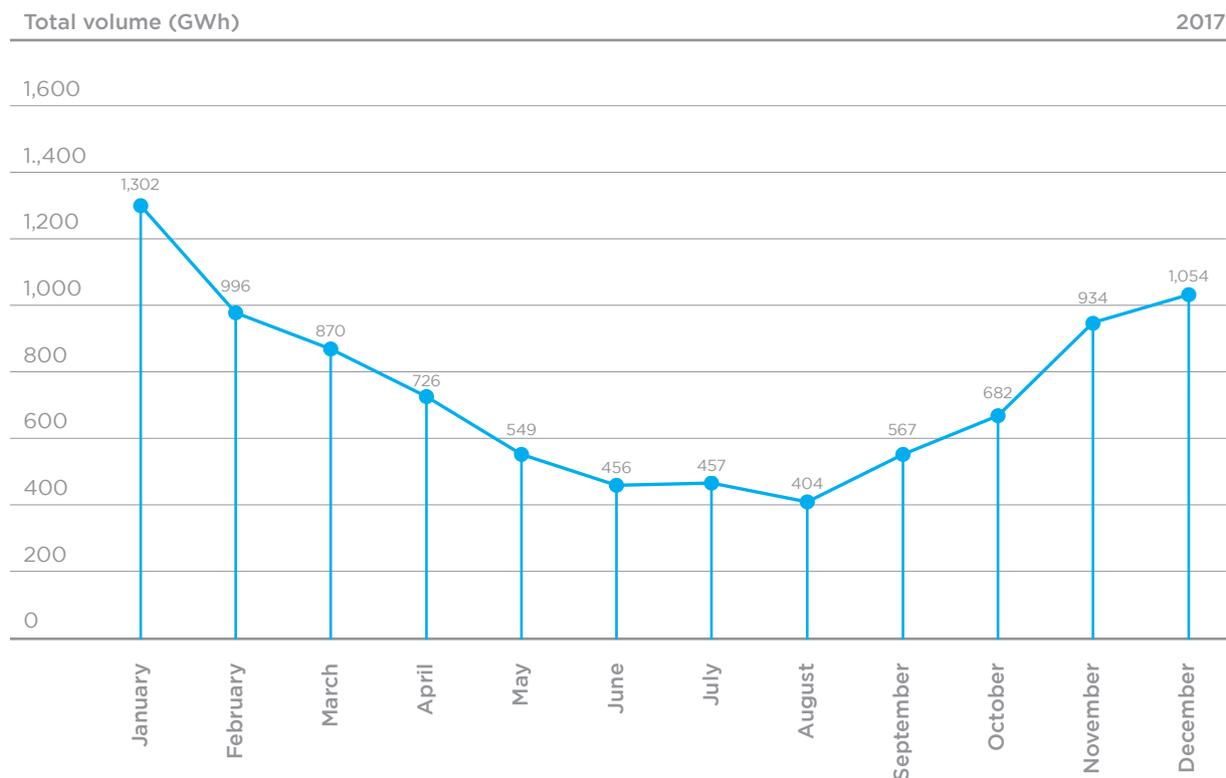
|                                  |       | 2017         | 2016  | Variation |
|----------------------------------|-------|--------------|-------|-----------|
| Industrial sector                | (GWh) | 3,694        | 3,683 | +0.3%     |
| Electricity generation (>100 MW) | (GWh) | 0            | 31    | -100.0%   |
| Public distribution              | (GWh) | 5,263        | 5,451 | -3.4%     |
| of which Creos                   | (GWh) | 3,367        | 3,463 | -2.7%     |
| <b>Total</b>                     | (GWh) | <b>8,957</b> | 9,165 | -2.2%     |

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 2017 has however been marked by an economic revival especially in the industrial sector.



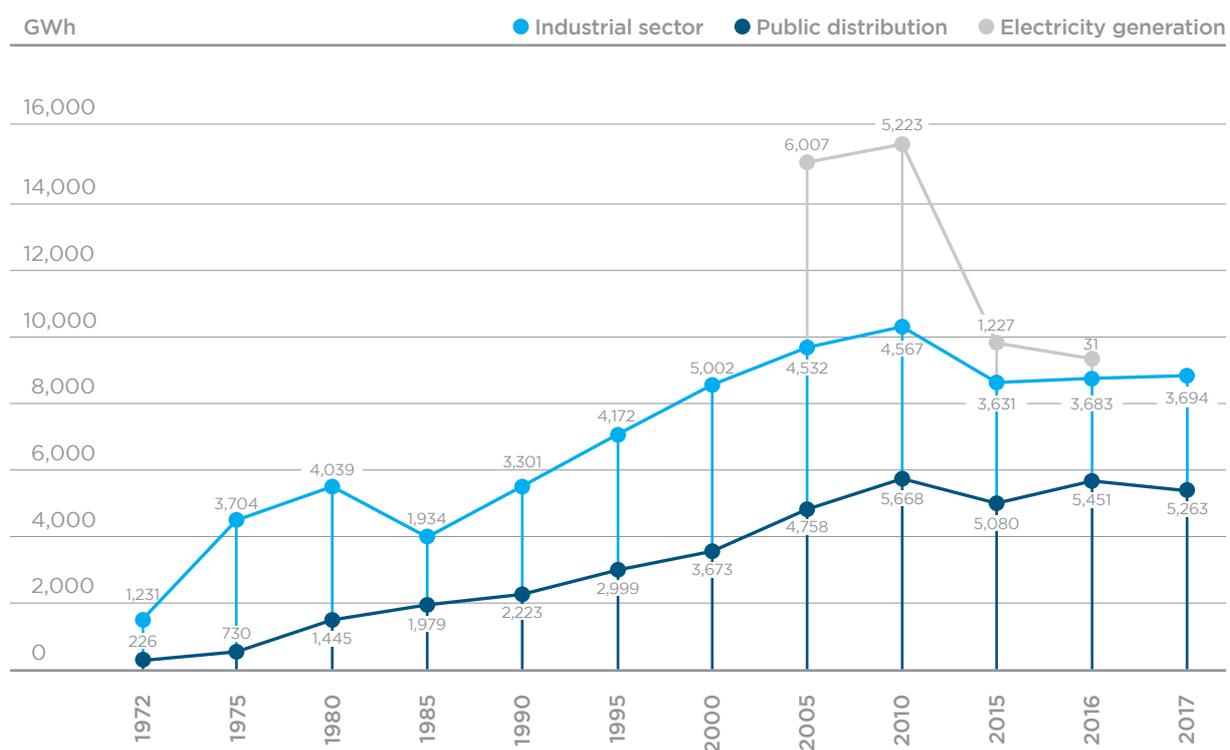


## Total demand per month

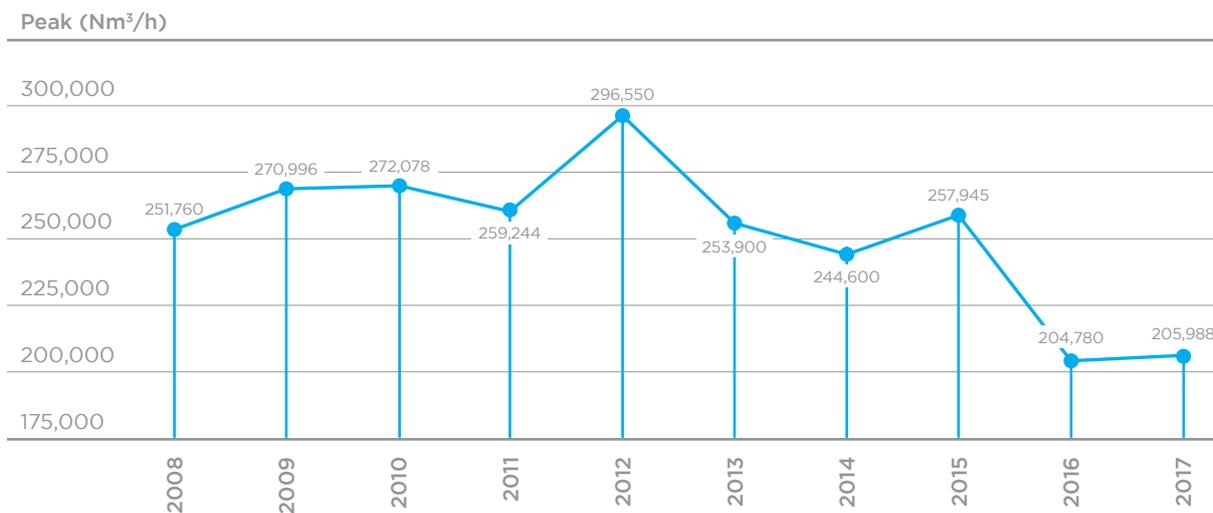


Total demand includes the large-scale industrial and electricity production sector.

## Evolution of the total demand per year

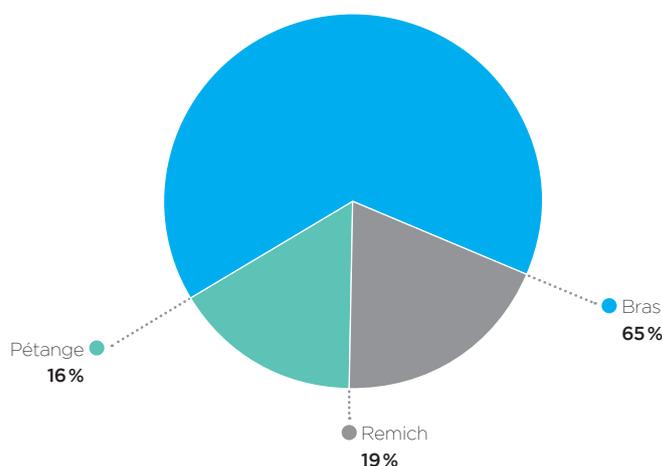


# Evolution of the network peak



## Breakdown of flows per point of interconnection

|              |                 |       | 2017         | 2016  | Variation |
|--------------|-----------------|-------|--------------|-------|-----------|
| Remich       | German network  | (GWh) | 1,707        | 2,682 | -36.3%    |
| Bras         | Belgian network | (GWh) | 5,834        | 5,701 | +2.3%     |
| Pétange      | Belgian network | (GWh) | 1,416        | 782   | +81.1%    |
| <b>Total</b> |                 | (GWh) | <b>8,957</b> | 9,165 | -2.2%     |

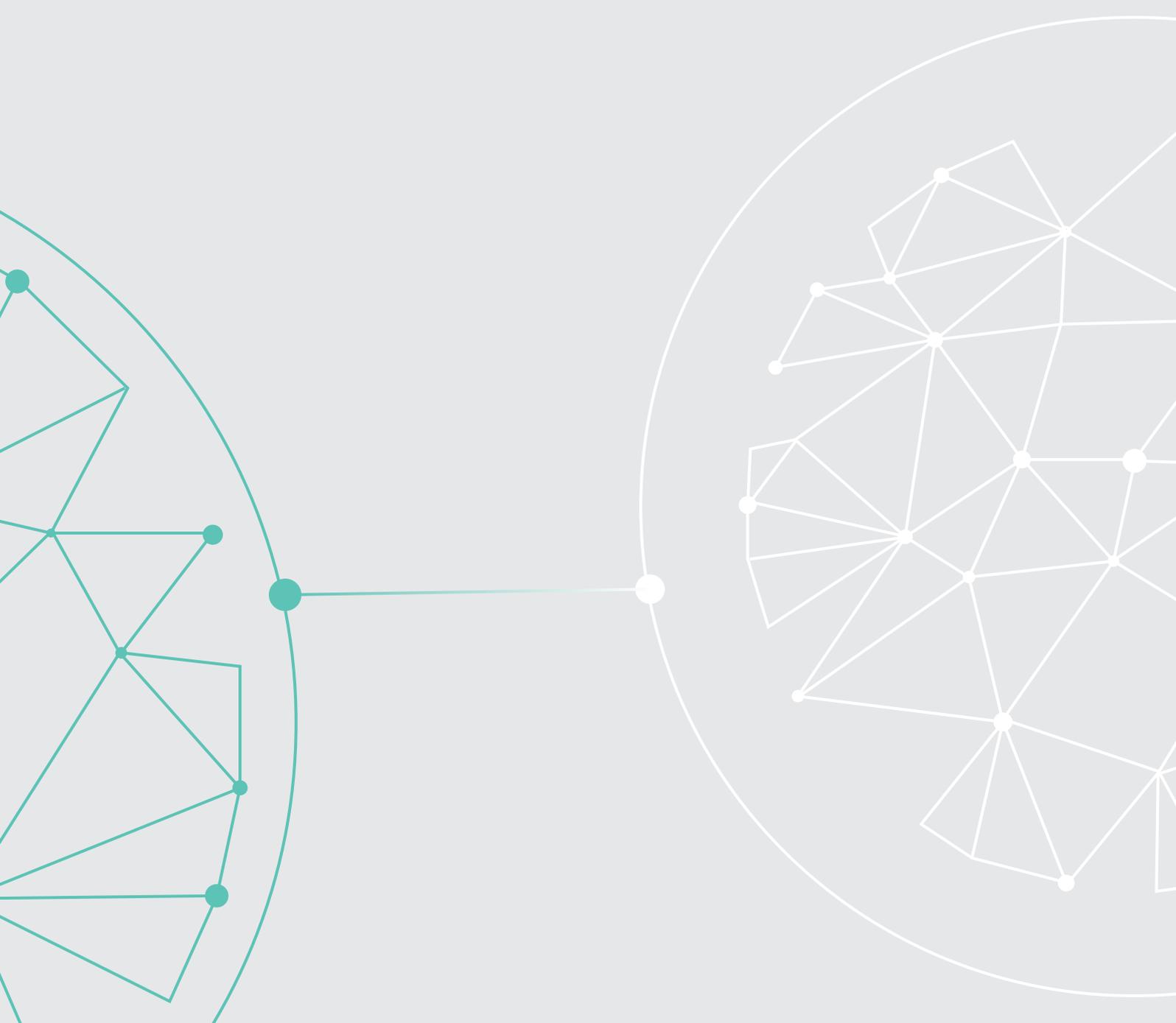








# Subsidiaries, equity interests and partnerships of Creos Luxembourg



# Creos Deutschland strengthens its position in the energy sector

THE YEAR 2017 HAS BEEN DECISIVE FOR OUR GERMAN SUBSIDIARY. THANKS TO THE BUYOUT OF THE LOCAL ELECTRICITY NETWORK STEAG GMBH, CREOS DEUTSCHLAND HAS DIVERSIFIED ITS GRID BUSINESS AND WILL NOW BE ABLE TO TEST NEW TECHNOLOGIES. FOR JENS APELT, MANAGING DIRECTOR, THE COMPANY CAN LOOK TO THE FUTURE WITH CONFIDENCE AND OPTIMISM.

## What are the trends of the gas market in Germany?

**Jens Apelt:** As a result of the ongoing debate on shutting down coal fired power stations, natural gas as an energy source enjoys again a higher esteem.

On the one hand, natural gas will be an important energy source for power generation, especially after the last nuclear power plant in Germany is going to shut down in 2023. On the other hand, the existing gas network infrastructure is regarded as an important energy storage for the power-to-gas-technology.

Furthermore, many car manufacturers are increasing their production of gas-powered cars, which run by synthetic natural gas (methane).

The natural gas industry experiences a new sense of optimism.

## What are the highlights of the year 2017 for Creos Deutschland and Creos Deutschland Services?

**J.A.:** The acquisition of the electricity grid STEAG GmbH was certainly the number one highlight for Creos Deutschland in 2017. Because of this acquisition, we were able to diversify our grid business and we will now be able to test new technologies such as cross sector application (sector coupling). Furthermore, we are in an excellent strategic position, should it come to a market consolidation among the grid operators in the coming years.

The Federal Grid Agency (Bundesnetzagentur) approved our application for funding the MAR (Maximal Allowed Revenues) for the period 2018-2022; this guarantees a solid financial basis we can build on for the next 5 years.

Last but not least, the relocation of our headquarters to Homburg and the centralisation of the support functions will lead to continual improvement of procedures and communication.



Jens Apelt,  
Managing Director



**In August 2017, Creos Deutschland bought the regional electricity network Essen-based STEAG GmbH with retroactive effect from 1 January 2017. Can you present in few words this company and explain how Creos Deutschland will manage in the future its new role in the electric sector?**

**J.A.:** The STEAG GmbH, now Creos Deutschland Stromnetz GmbH, manages a high and medium voltage electricity network in Saarland which is 450 km long; all of the 26 former STEAG employees were transferred to the new company. The most important customers are Stadtwerke Saarbrücken and some industrial customers. The grid ensures the distribution of electricity to almost all old coal mines as well as to their groundwater pumps.

The electricity is mainly generated by power plants in Bexbach, Weiher, Fenne as well as by mine gas engines. Furthermore, power from renewable energy sources such as wind and solar is fed in.

The former STEAG employees possess recognised competence in electricity business. In combination with the excellent qualification of the Creos colleagues in Luxembourg we will be able to cope with all future challenges.

Now it is important that the new Creos Deutschland Stromnetz GmbH will be completely released from STEAG business group and integrated into our group of companies by adapting the processes accordingly.

**At the beginning of the year 2017 you transferred your headquarters from Saarbrücken to Homburg. How did that move affect your activities?**

**J.A.:** Besides the necessary reorganisation, we are also facing a new generation of managers at Creos Deutschland GmbH. It will take a few months until the new organisation is running smoothly. But the new structure will enable us to meet the future challenges in our business – such as digitalisation, energy transition, IT security and talent contests.

Creos Deutschland Holding GmbH is a 96.88%-owned subsidiary of Creos Luxembourg S.A. and the sole shareholder in Creos Deutschland GmbH and Creos Deutschland Services GmbH. The company Creos Deutschland GmbH operates a medium and high voltage electricity grid with 450 km and carries natural gas on a high-pressure grid with almost 1,700 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 2.7 million individuals.

## Key figures \*

|                                |          | 2017   | 2016   |
|--------------------------------|----------|--------|--------|
| Volume transported natural gas | (GWh)    | 28,991 | 29,102 |
| Electricity flow               | (GWh)    | 606.9  | -      |
| Net turnover                   | (M€)     | 122.4  | 89.8   |
| EBITDA                         | (M€)     | 31.1   | 24.8   |
| EBIT                           | (M€)     | 22.3   | 17.9   |
| Profit for the financial year  | (M€)     | 13.2   | 12.1   |
| Investment                     | (M€)     | 33.4** | 24.2   |
| Workforce                      | (number) | 140    | 112    |

\* 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

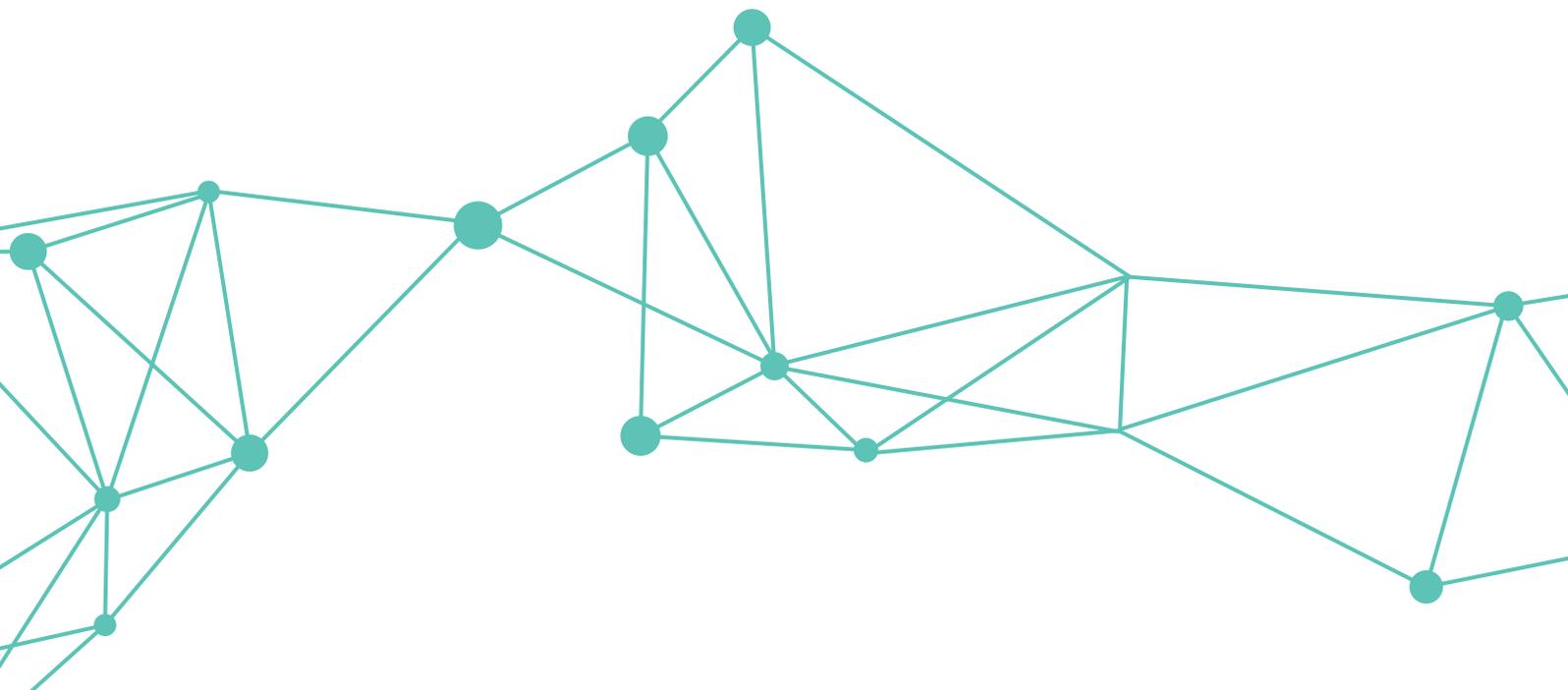
Balansys S.A. was formed in 2015 for the interconnection of the Luxembourg gas market with the Belgian gas market. The two network administrators, Creos Luxembourg S.A. and Fluxys Belgium, hold equal shares in Balansys, which is responsible for applying the rules and balancing tariffs in the integrated 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 internalising the circular economy. Creos has decided to support the non-profit organisation 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. Creos sponsors the jersey of the "best young rider" in the Skoda Tour de Luxembourg, a national cycling race held in stages.

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

The natur&mwelt 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.

## Lëtzebuenger Guiden a Scouten

In July 2017, Creos supported the Lëtzebuenger Guiden a Scouten by providing services to enable planning and implementation of a power grid at their "Go Urban" camp. In total, 2,000 metres of cable, 18 low-pressure switching cabinets and 28 temporary connection cabinets were installed at this intercultural event for young people aged 6 to 23.

## FEDIL

In 2017, Creos joined 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 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

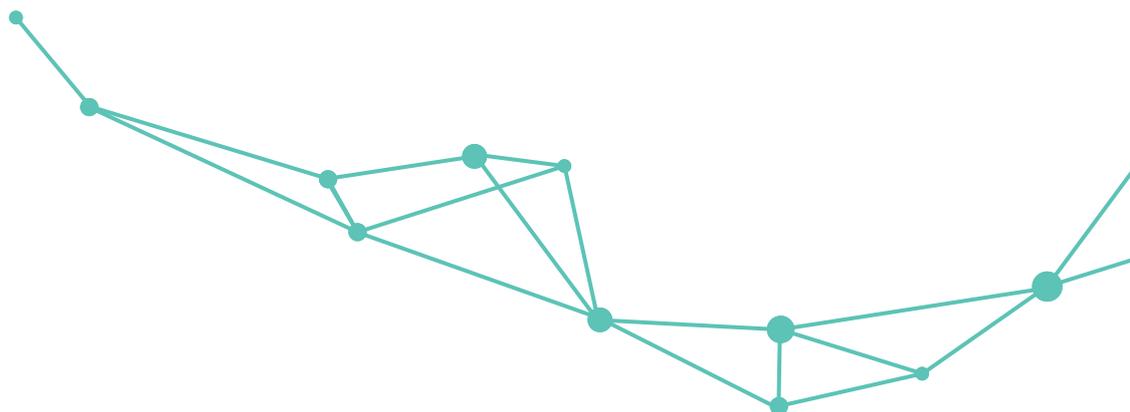
Creos is also committed to activities abroad. After the earthquake in 2010 in Haiti, Creos decided to support an electrification project in the Café Lompré region. By joining forces with Objectif Tiers Monde (OTM), Creos found a professional, effective partner which has worked exclusively in Haiti since 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 2017, REEL (Réunion Européenne des Etudiants Luxembourgeois), ACEL (Association des Cercles d'Étudiants 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 organisations instead of providing traditional gifts at the end of the year. In 2017, the associations Kanner-Jugendtelfon and Stëmm vun der Stross each received a cheque in the amount of €5,000.



# Corporate social responsibility (CSR)

Creos's CSR strategy is an integral part of the strategy of the Encevo Group, which is based on contributing to the achievement of the UN Sustainable Development Goals (SDGs). 2017 was a transition year for our CSR approach.

In previous years, our CSR performance was structured around six commitments, defined in 2014. In line with the change initiated last year, our approach has been modified to better reflect international trends and their local implications. More specifically, the group focuses its efforts on the six SDGs for which it believes it has an active and direct role to play.

**7 AFFORDABLE AND CLEAN ENERGY**



**8 DECENT WORK AND ECONOMIC GROWTH**



**9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**



**11 SUSTAINABLE CITIES AND COMMUNITIES**



**12 RESPONSIBLE CONSUMPTION AND PRODUCTION**

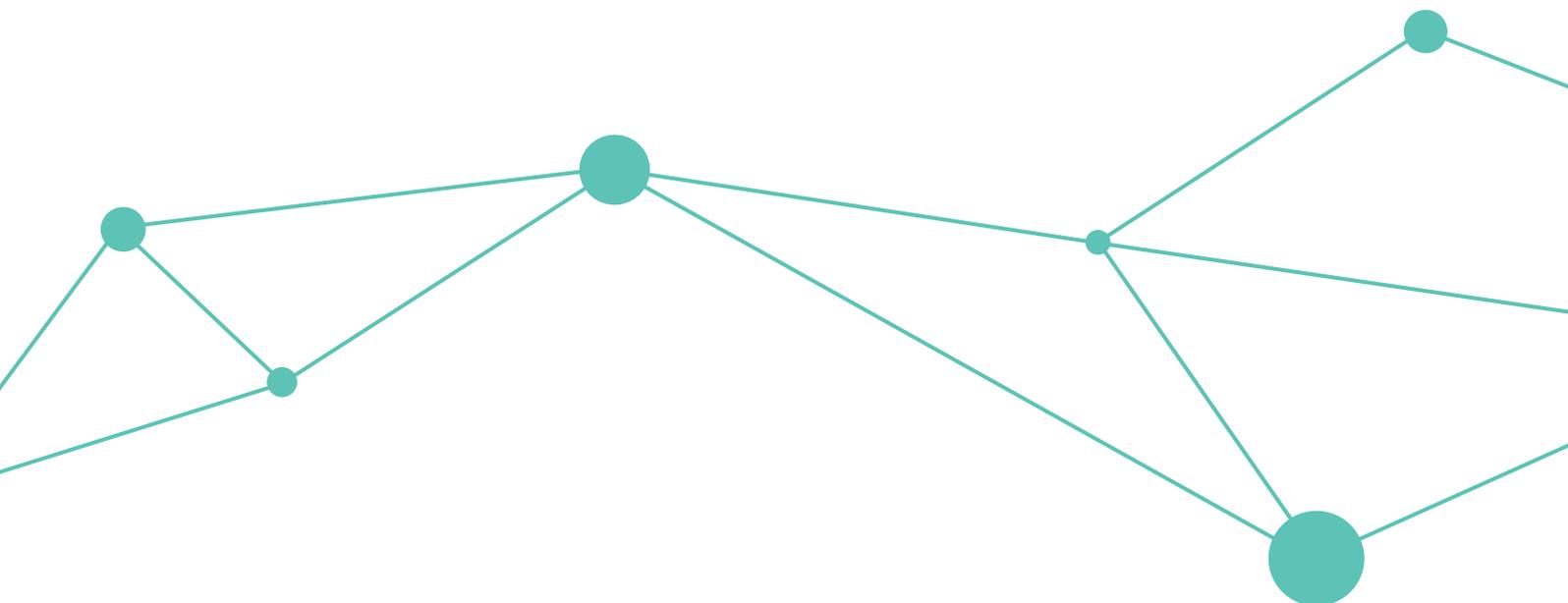


**13 CLIMATE ACTION**



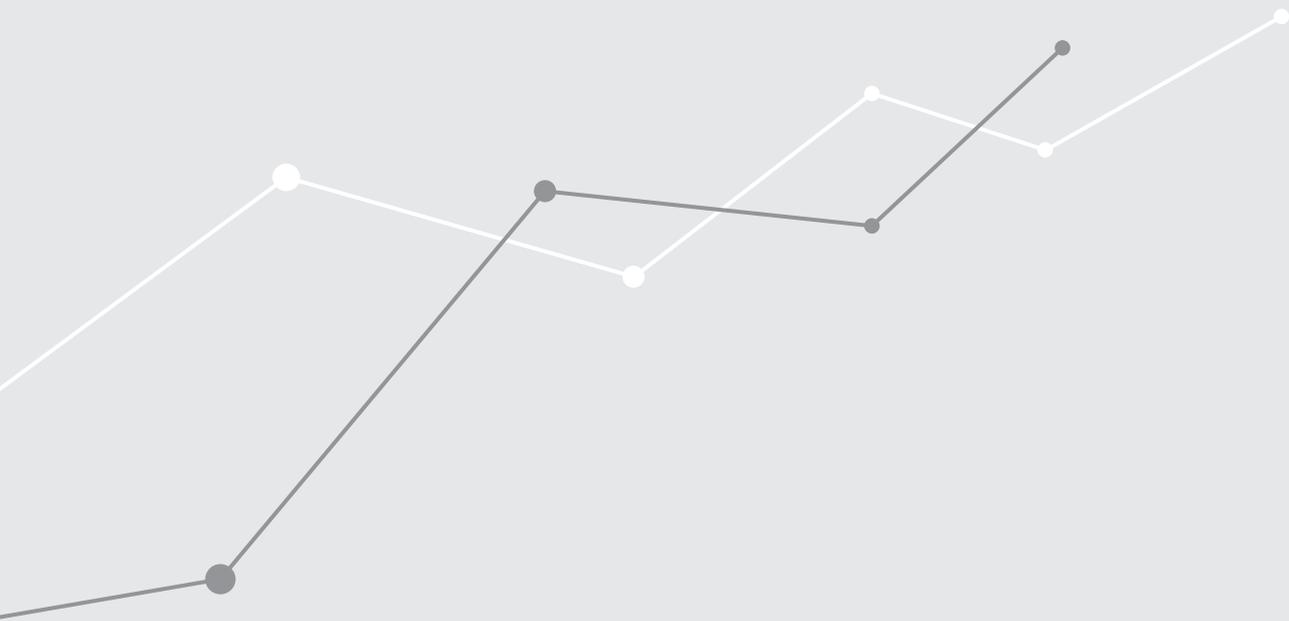
Formerly inspired by the GRI G4 guidelines, we are now using some of the indicators from the new GRI standards in our approach to CSR reporting. More information on this subject and our "GRI Content Index" can be found in the CSR report of the Encevo Group, which has been included in the annual report of Encevo S.A..

In 2015, Creos received the "Socially Responsible Enterprise - ESR" label from the INDR (National Institute for Sustainable Development and Corporate Social Responsibility).





# 3. Management report of the Board and annual accounts



# Management report of the Board

The framework for the organization of the energy markets has been defined within the 3<sup>rd</sup> European energy package. Its transposition to the Luxembourgish context is more precisely defined by the amended laws on electricity and gas markets dated 1 August 2007.

The main principle is a strict separation between the energy grid infrastructure management and other activities such as production, sale, purchase, trading of energy. Within the Encevo Group, Creos Luxembourg S.A. (named further "Creos") is in charge of the grid activities (planning, building, operating and maintaining gas and power networks).

## Regulation and non-discrimination

Network access is organized and supervised by a regulator, i.e. the Luxembourg Institute of Regulation (ILR). The regulator's task in particular is to ensure non-discrimination, effective competition and the efficient operations of the markets.

Furthermore for the grid activities, the regulator sets the tariffs which all users of the network have to pay. The six main activities of Creos (which compose the most part of its turnover) are all regulated activities: transport of electricity (TSO power), transport of gas (TSO gas), distribution of electricity (DSO power), distribution of gas (DSO gas), as well as metering of both electricity and gas.

As required by the law, Creos has established a program containing the appropriate measures to exclude any discriminatory practice in the treatment of different network users. The program and its annual monitoring are published on our Internet site at [www.creos.net](http://www.creos.net).

Since 1 January 2017, the second regulation period is in force for 4 years (until 2020 included). According to the ILR regulations E/16/12 (electricity), E/16/13 (gas) as of 13 April 2016 and E16/14 (smart metering) as of 14 April 2016, the capital remuneration rate has been reduced to 6.12% (instead of 7.60% in the first regulation period until 2016). This, combined with the fact that the baseline of allowed costs for the new regulation period has been reviewed downwards when compared with the allowed costs until 2016, has had a negative impact on the 2017 financial results of Creos.

Detailed information on the applicable regulation as well as the tariffs approved for Creos can be found on [www.ilr.lu](http://www.ilr.lu).

## Highlights of the year 2017

A safe and reliable energy transport and distribution infrastructure is a key element to guarantee the well-being of citizens and the sustainable development of a country's economy. That is why security of supply remains the top priority of Creos and why Creos continues to heavily invest 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 new sectors such as electro-mobility, distributed storage, etc.

2017 has again been a strong year concerning investments for Creos. This large investment program, driven mainly by the expansion of the high and medium voltage grid, the deployment of the smart meters and the modernization/renewal of operating sites will continue in the next few years.

Besides reinforcing its own national grid, Creos has continued to be very active on the European level by working together with the adjacent TSO's in order to drive forward a regional market integration respectively create new connections between adjacent markets. With these efforts (e.g. Creos became a client of TSCnet in 2017), Creos positions itself clearly within the spirit of the European Directive 2009/73/EC, which aims at getting the Member States to evolve towards creating a barrier-free single market.

## Power

A permanent interconnection of Creos with the Belgian grid (Elia) is planned in different steps. In a first step, a phase shift transformer was installed in the existing infrastructure in order to control the flows between the grids. The commissioning of the "Luxembourg-Ring" - the new High Voltage Line east of Luxembourg city - further increased the possible transfer of power through the country. Therefore Creos, in coordination with Elia and Amprion decided on a technical "trial phase" go-live of this first interconnection between the German and Belgian market areas in October 2017.



At this point, this new interconnection was fully embedded in all European systems. The trial phase, which tests the actual available capacities on that line, will last for a year – after which a decision on full commercialisation of the capacity will have to be agreed upon with all concerned TSOs and regulators.

### Natural gas

In close collaboration with Luxembourg's regulatory authority (ILR) and Belgium's Regulatory Commission for Electricity and Gas (CREG), Creos Luxembourg and Fluxys Belgium had launched on 1 October 2015 the integrated Belgian-Luxembourgish Gas Market, first market integration of its kind between two EU Member States and established a new jointly owned (50/50) company called Balansys responsible for the full operation of the balancing activities in the integrated market.

For regulatory reasons, the final setup and approval by the Agency for the Cooperation of Energy Regulators (ACER) of Balansys initially scheduled on 1 of April 2016 was delayed and is now planned in 2018.

### Electro-mobility

Creos, together with the other DSO's started in 2016 a common project e-mobility of deploying 800 charging points for electric cars (741 for Creos) until 2020. Beyond the mission to build, operate and maintain the charging stations, the DSO's are also responsible for the installation, the operation and the maintenance of a common system to provide all necessary information and services to electric cars customers and suppliers. This common system entered into operation in Q2 2017 and the installation of the charging stations was launched in parallel – at the end of 2017 over 100 loading stations (with two loading points each) were installed and operational in the national system.

### Metering

Introduction of smart meters (power and gas) in Luxembourg is mandated by law for all distribution operators. The legal deadline for complete (i.e. 95%) coverage has been fixed to 2019 for electricity meters and 2020 for gas meters. After the creation in 2015 of Luxmetering G.I.E. owned 80% by Creos (a common company between Creos and all the other DSOs in Luxembourg) to design and implement the common and unique platform for the smart meter read-out, the general mass roll-out of smart meters started in 2016. By the end of 2017, some 80,000 smart meters have been installed by Creos and an additional 100,000 are foreseen for 2018. The central management and read-out system managed by Luxmetering achieved full operational status in 2017.

In parallel, an electronic market communication was introduced in Luxembourg. Creos fully implemented this market communication with all market partners in 2017. An extension of the market communication to cover new functionalities of the smart meters is scheduled for introduction in 2018.

### Various

Creos acquired a plot of land in 2015 for a new headquarter and operational center in the City of Luxembourg (to replace and consolidate its current Hollerich and Strassen sites). The construction has started in 2017.

In parallel, Creos has started the planning for a new national control (dispatching) center and obtained permits for construction in 2017 – breaking ground is foreseen in Q2 2018. In the new dispatching centre (scheduled to become operational in 2020), we will centralize - besides the Power HV and Gas HP/MP dispatchings - also our MV dispatching and have a network operating centre monitoring all our installations.

## Financial results of Creos Luxembourg S.A.

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

#### Profit and loss account

**Net turnover** reached EUR 243,740,485 in 2017 (EUR 258,044,755 in 2016). The decrease in net turnover (see Note 16) is mainly due to the decrease of allowed revenues in grid tariffs as a consequence of the second regulation starting 1 January 2017 and to the decrease of balancing energy.

**The current operating result (EBITDA)** was EUR 122,281,608 in 2017 (EUR 137,533,068 in 2016), mainly as a result of decreased revenues.

**Profit for the financial year** was EUR 40,897,787 (EUR 57,277,592 in 2016). It includes a dividend received from Creos Deutschland Holding of EUR 6,781,278 (EUR 5,812,524 in 2016).

#### Balance sheet

There has been no change in subscribed capital of the Company since the Extraordinary Meeting of Shareholders held on 6 January 2011 which approved the contribution of the gas and electricity networks of the City of Luxembourg to Creos Luxembourg S.A. with 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 Communes and according to 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.

#### Risk Management Objectives and Policies

The main risks the Company has to manage are accidents to people (internal and third parties) and network damage in certain climatic events.

#### Proposed appropriation of net profit

The profit available for appropriation of EUR 56,551,384 includes the net profit for the year of EUR 40,897,787, the reversal of the blocked reserve (wealth tax) of EUR 11,830,000 and the profit brought forward of EUR 3,823,597.

The Board of Directors proposes to the Annual Shareholder's Meeting to be held on 8 May 2018 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  | 12,600,000        |
| Allocation to other reserve  | 10,000,000        |
| Amount carried forward   | 4,138,830         |
| <b>Total</b>   | <b>56,551,384</b> |

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

## Outlook

Creos Luxembourg S.A. will continue in 2018 and following years to implement a significant plan for investment and maintenance to modernize its networks in order to ensure their safety and reliability. The Company will also continue to roll-out the 'smart' meters (called 'Smarty') and prepare

the introduction of 'smart' grids. In 2018 and following years, the installation of loading stations 'Chargy' for electrical cars will continue.

At this stage, the Company does not foresee any technical or financial development likely to raise issues on its economic or financial situation.



## Changes in 2017 in the Board of Directors of Creos Luxembourg S.A.

To replace Mr Julien Kohnen, who had resigned, the ordinary general meeting of shareholders held on 9 May 2017 resolved to appoint Mr Laurent Vanetti as Director of the company, for the outstanding term of his predecessor's mandate.

At its meeting held on 28 September 2017, the Board of Directors acknowledged the resignation of Mr Michael Reuther from his personal mandate as Director with effect as from 29 September 2017

and the replacement of Mr Benoît Gaillochet by Mr Michael Reuther as permanent representative of AXA Redilion ManagementCo S.C.A.. Furthermore, the Board co-opted Mr Benoît Gaillochet as from 29 September 2017 as Director to finish the mandate vacated by Mr Michael Reuther. The annual general meeting of shareholders is invited to confirm this provisional nomination, which remains subject to its approval.

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

The terms of office of Mr Jean Schiltz and Mr Marco Valentiny are set to expire. A proposal will be submitted on this matter to the annual general meeting of shareholders.

In the context of the change in the shareholding of Encevo S.A. as of 21 February 2018, Mr Eric Bosman resigned from his office as member of the Board of Directors of Creos Luxembourg with effect as of the same date. A new Director will need to be appointed at the annual general meeting of shareholders.

## Auditor

The mandate of the external independent statutory auditor, PricewaterhouseCoopers Société coopérative, will come to term with the audit of the financial year 2017. The Board of Directors will submit a proposal on this behalf to the annual general meeting of shareholders.

Luxembourg, 29 March 2018  
The Board of Directors

# Annual accounts

## Balance sheet as at 31 December 2017

| ASSETS   | Notes   | 2017               | 2016        |
|--|---------|--------------------|-------------|
|  |         | EUR                | EUR         |
| <b>Fixed assets</b>  |         | <b>880,576,262</b> | 844,792,559 |
| Intangible assets  | Note 4  |                    |             |
| Concessions, patents, licences, trade marks and similar rights and assets, if they were                |         |                    |             |
| a) acquired for valuable consideration   |         | <b>15,764,026</b>  | 4,810,002   |
| Payments on account and intangible fixed assets under development                                      |         | <b>743,165</b>     | 10,190,290  |
| Tangible assets  | Note 5  |                    |             |
| Land and buildings   |         | <b>114,370,909</b> | 115,892,259 |
| Plant and machinery  |         | <b>589,797,090</b> | 545,915,050 |
| Other fixtures and fittings, tools and equipment   |         | <b>18,159,367</b>  | 15,872,546  |
| Payments on account and tangible assets in the course of construction                                  |         | <b>97,406,854</b>  | 107,817,578 |
| Financial assets   | Note 6  |                    |             |
| Shares in affiliated undertakings  |         | <b>42,000,000</b>  | 42,000,000  |
| Participating interests  |         | <b>1,984,851</b>   | 2,084,834   |
| Loans to undertakings with which the undertaking is linked by virtue of participating interests        |         | <b>350,000</b>     | 210,000     |
| <b>Current assets</b>  |         | <b>99,902,736</b>  | 85,937,895  |
| Stocks   |         |                    |             |
| Raw materials and consumables  |         | <b>9,215,216</b>   | 9,485,682   |
| Work in progress   |         | <b>14,317,311</b>  | 22,415,069  |
| Payments on account  |         | <b>720,326</b>     | 0           |
| Debtors  |         |                    |             |
| Trade debtors  | Note 7  |                    |             |
| a) becoming due and payable within one year  |         | <b>15,111,519</b>  | 11,413,159  |
| Amounts owed by affiliated undertakings  |         |                    |             |
| a) becoming due and payable within one year  | Note 8  | <b>36,576,172</b>  | 24,080,621  |
| Amounts owed by undertakings with which the undertaking is linked by virtue of participating interests |         |                    |             |
| a) becoming due and payable within one year  |         | <b>506,369</b>     | 321,293     |
| Other debtors  |         |                    |             |
| a) becoming due and payable within one year  | Note 9  | <b>22,254,869</b>  | 17,415,038  |
| Investments  |         |                    |             |
| Own shares   | Note 10 | <b>469,595</b>     | 469,595     |
| Cash at bank and in hand   |         | <b>731,359</b>     | 337,438     |
| Prepayments  | Note 11 | <b>7,841,663</b>   | 8,674,421   |
| <b>TOTAL ASSETS</b>  |         | <b>988,320,661</b> | 939,404,875 |



The accompanying notes form an integral part of the annual accounts

| <b>CAPITAL, RESERVES AND LIABILITIES</b>   | Notes      | <b>2017</b>        | 2016        |
|--|------------|--------------------|-------------|
|  |            | EUR                | EUR         |
| <b>Capital and reserves</b>  | Note 12    | <b>672,060,104</b> | 665,943,630 |
| 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>154,805,486</b> | 136,805,486 |
| b) other non available reserves  |            | <b>63,765,000</b>  | 56,625,000  |
| Profit or loss brought forward   |            | <b>3,823,597</b>   | 6,467,318   |
| Profit or loss for the financial year  |            | <b>40,897,787</b>  | 57,277,592  |
| <b>Provisions</b>  |            | <b>39,506,822</b>  | 39,613,004  |
| Provisions for pensions and similar obligations  | Note 13.1. | <b>32,093,791</b>  | 31,653,611  |
| Other provisions   | Note 13.2. | <b>7,413,031</b>   | 7,959,393   |
| <b>Creditors</b>   |            | <b>251,388,882</b> | 208,673,645 |
| Amounts owed to credit institutions  |            |                    |             |
| a) becoming due and payable within one year  |            | <b>32</b>          | 38          |
| 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>13,054,081</b>  | 16,219,207  |
| Trade creditors  |            |                    |             |
| a) becoming due and payable within one year  |            | <b>34,656,627</b>  | 18,784,369  |
| Amounts owed to affiliated undertakings  |            |                    |             |
| a) becoming due and payable within one year  | Note 14    | <b>61,196,941</b>  | 31,976,580  |
| b) becoming due and payable after more than one year   | Note 14    | <b>132,000,000</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>831,189</b>     | 302,559     |
| Other creditors  |            |                    |             |
| a) Tax authorities   | Note 15.1. | <b>5,150,394</b>   | 4,971,903   |
| b) Social security authorities   |            | <b>2,589,854</b>   | 3,234,753   |
| c) Other creditors   |            |                    |             |
| i) becoming due and payable within one year  | Note 15.2. | <b>1,909,764</b>   | 1,184,236   |
| <b>Deferred income</b>   | Note 11    | <b>25,364,853</b>  | 25,174,596  |
| <b>TOTAL CAPITAL, RESERVES AND LIABILITIES</b>   |            | <b>988,320,661</b> | 939,404,875 |

## Profit and loss account for the year ended 31 December 2017

|  | Notes      | 2017                | 2016         |
|--|------------|---------------------|--------------|
|  |            | EUR                 | EUR          |
| 1. Net turnover  | Note 16    | <b>243,740,485</b>  | 258,044,755  |
| 3. Work performed by the undertaking for its own purpose and capitalised                       | Note 17    | <b>34,937,745</b>   | 35,695,591   |
| 4. Other operating income  |            | <b>1,428,288</b>    | 601,695      |
| 5. Raw materials and consumables and other external expenses                                   |            |                     |              |
| a) Raw materials and consumables   |            | <b>(43,424,278)</b> | (43,726,832) |
| b) Other external expenses   |            | <b>(44,563,364)</b> | (47,181,082) |
| 6. Staff costs   | Note 18    |                     |              |
| a) Wages and salaries  |            | <b>(59,245,267)</b> | (56,061,982) |
| b) Social security costs   |            |                     |              |
| i) relating to pensions  |            | <b>(3,753,283)</b>  | (3,537,880)  |
| ii) other social security costs  |            | <b>(2,590,368)</b>  | (2,407,833)  |
| c) Other staff costs   |            | <b>(4,238,231)</b>  | (3,904,662)  |
| 7. Value adjustments   |            |                     |              |
| a) in respect of formation expenses and of tangible and intangible fixed assets                | Notes 4, 5 | <b>(82,287,411)</b> | (73,101,866) |
| b) in respect of current assets  |            | <b>(10,119)</b>     | 11,298       |
| 9. Income from participating interests   | Note 19    |                     |              |
| a) derived from affiliated undertakings  |            | <b>6,781,278</b>    | 5,812,524    |
| 11. Other interest receivable and similar income   |            |                     |              |
| b) other interested and similar income   |            | <b>20,832</b>       | 48,859       |
| 13. Value adjustments in respect of financial assets and of investments held as current assets | Note 6     | <b>(100,000)</b>    | 0            |
| 14. Interest payable and similar expenses  |            |                     |              |
| a) concerning affiliated undertakings  |            | <b>(2,507,885)</b>  | (2,395,607)  |
| b) other interest and similar expenses   |            | <b>(18,535)</b>     | (19,801)     |
| 15. Tax on profit or loss  | Note 15.1. | <b>(3,240,000)</b>  | (10,567,485) |
| 16. Profit or loss after taxation  |            | <b>40,929,887</b>   | 57,309,692   |
| 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>40,897,787</b>   | 57,277,592   |

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.

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”).

#### Presentation of the comparative financial data

In order to further improve the presentation of the annual accounts, management has recorded in 2017 some reclassification between the captions “Social security costs” and “Other staff costs” (see Note 18). The comparative figures for 2016 have been reclassified accordingly.

#### 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 20 years in general for assets part of the grid and over 50 years in general for assets not part of the grid).
- 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 four to forty 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 four to forty 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 under caption "Work performed by the undertaking for its own purposes and capitalised" during the year 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.

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 not taxable capital gains**

Temporarily non-taxable 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 liability 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 declared.

## Note 4 – Intangible assets

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

|   | Concessions,<br>patents,<br>licences,<br>trade marks<br>and similar<br>rights and<br>assets | Payments on<br>account and<br>intangible<br>assets under<br>development | TOTAL 2017          | TOTAL 2016   |
|---|---|---|---------------------|--------------|
|   | EUR   | EUR   | EUR                 | EUR          |
| Gross book value - opening balance              | 25,617,333  | 10,190,290  | <b>35,807,623</b>   | 30,101,709   |
| Additions for the year                          |   | 5,675,707   | <b>5,675,707</b>    | 5,705,914    |
| Disposals for the year                          |   |   |                     |              |
| Transfers for the year                          | 15,122,832  | (15,122,832)  |                     |              |
| Gross book value - closing balance              | 40,740,165  | 743,165   | <b>41,483,330</b>   | 35,807,623   |
| Accumulated value adjustments - opening balance | (20,807,331)  |   | <b>(20,807,331)</b> | (18,472,305) |
| Allocations for the year                        | (4,168,808)   |   | <b>(4,168,808)</b>  | (2,335,026)  |
| Reversals for the year                          |   |   |                     |              |
| Accumulated value adjustments - closing balance | (24,976,139)  |   | <b>(24,976,139)</b> | (20,807,331) |
| <b>Net book value - closing balance</b>         | <b>15,764,026</b>   | <b>743,165</b>  | <b>16,507,191</b>   | 15,000,292   |

The transfers for the year of EUR 15,122,832 relate mainly to software investments required for the separation of the Creos client energy data management systems from Enovos Luxembourg ones via the implementation of a standardised electronic market communication. A public consultation has been made by the regulator on this market communication among all market participants.

## Note 5 – Tangible assets

Movements for the year were as follows:

|   | Land and<br>buildings | Plant and<br>machinery | Other fixtures<br>and fittings,<br>tools and<br>equipment | Payments<br>on account<br>and tangible<br>assets in<br>the course of<br>construction | TOTAL 2017             | TOTAL 2016         |
|---|-----------------------|------------------------|---|--|------------------------|--------------------|
|   | EUR                   | EUR                    | EUR   | EUR  | EUR                    | EUR                |
| Gross book value -<br>opening balance                 | 146,060,321           | 1,488,147,599          | 65,912,221  | 107,817,578  | <b>1,807,937,719</b>   | 1,701,977,531      |
| Additions<br>for the year                             | 17,031                | 7,608,614              | 2,711,596   | 102,302,534  | <b>112,639,775</b>     | 114,941,649        |
| Capital gain  |                       |                        |   |  |                        | (2,906,211)        |
| Disposals<br>for the year                             | (150)                 | (1,874,703)            | (23,247)  | (87,109)   | <b>(1,985,209)</b>     | (6,075,250)        |
| Transfers<br>for the year                             | 2,271,953             | 106,264,945            | 4,089,251   | (112,626,149)  |                        |                    |
| Gross book value -<br>closing balance                 | 148,349,155           | 1,600,146,455          | 72,689,821  | 97,406,854   | <b>1,918,592,285</b>   | 1,807,937,719      |
| Accumulated value<br>adjustments -<br>opening balance | (30,168,062)          | (942,232,549)          | (50,039,675)  |  | <b>(1,022,440,286)</b> | (956,837,048)      |
| Allocations<br>for the year                           | (3,810,184)           | (69,794,394)           | (4,514,025)   |  | <b>(78,118,603)</b>    | (70,766,839)       |
| Reversals<br>for the year                             |                       | 1,677,578              | 23,246  |  | <b>1,700,824</b>       | 5,163,601          |
| Transfers<br>for the year                             |                       |                        |   |  |                        |                    |
| Accumulated value<br>adjustments -<br>closing balance | (33,978,246)          | (1,010,349,365)        | (54,530,454)  |  | <b>(1,098,858,065)</b> | (1,022,440,286)    |
| <b>Net book value -<br/>closing balance</b>           | <b>114,370,909</b>    | <b>589,797,090</b>     | <b>18,159,367</b>   | <b>97,406,854</b>  | <b>819,734,220</b>     | <b>785,497,433</b> |

The additions include mainly investments in the gas and electricity grids.

## 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 2017        | TOTAL 2016 |
|---|-----------------------------------|-------------------------|---|-------------------|------------|
|   | EUR                               | EUR                     | EUR   | EUR               | EUR        |
| Gross book value - opening balance              | 42,000,000                        | 2,084,834               | 210,000   | <b>44,294,834</b> | 44,065,834 |
| Additions for the year                          | 0                                 | 73,440                  | 140,000   | <b>213,440</b>    | 229,000    |
| Disposals for the year                          | 0                                 | (73,423)                | 0   | <b>(73,243)</b>   | 0          |
| <b>Gross book value - closing balance</b>       | <b>42,000,000</b>                 | <b>2,084,851</b>        | <b>350,000</b>  | <b>44,434,851</b> | 44,294,834 |
| Accumulated value adjustments - opening balance | 0                                 | 0                       | 0   | <b>0</b>          | 0          |
| Allocations for the year                        |                                   | (100,000)               |   | <b>(100,000)</b>  | 0          |
| Reversals for the year                          |                                   |                         |   |                   | 0          |
| Accumulated value adjustments - closing balance |                                   | (100,000)               |   | <b>(100,000)</b>  | 0          |
| <b>Gross book value - closing balance</b>       | <b>42,000,000</b>                 | <b>1,984,851</b>        | <b>350,000</b>  | <b>44,334,851</b> | 44,294,834 |

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

- On 9 November 2016, Ampacimon proceeded to a capital reduction by decrease of the nominal value and reimbursed on January 2017 a total amount of EUR 73,423 to the Company. On 23 January 2017, the Company took an additional stake of 0.95% in Ampacimon S.A. for a purchase price of EUR 73,440. Both transactions have been definitively acted in January 2017.
- On 26 April 2017, Learning Factory S.A. proceeded to a capital decrease by loss reduction and decrease of the nominal value of shares. A total depreciation of the participation of EUR 100,000 was posted in 2017 under the caption "Value adjustments in respect of financial assets and of investments held as current assets", as it has been decided to liquidate Learning Factory S.A. in 2018.
- During the year, the Company granted a loan to Balansys S.A. for an amount of EUR 140,000 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 (audited figures):

| Company name                   | Headquarters             | Proportion of capital held | Last available financial statements | Shareholders' equity at year-end | Of which profit for the year | Participation net book value 31/12/2017 |
|--------------------------------|--------------------------|----------------------------|-------------------------------------|----------------------------------|------------------------------|---|
|                                |                          | %                          |                                     | EUR                              | EUR                          | EUR                                     |
| Creos Deutschland Holding GmbH | Sarrebrücken (Germany)   | 96.88                      | 31/12/2017                          | 53,058,238                       | 12,118,414                   | 42,000,000                              |
| Balansys S.A.                  | Luxembourg (Luxembourg)  | 50.00                      | 31/12/2017*                         | 31,000                           | 0                            | 15,500                                  |
| Ampacimon S.A.                 | Grâce-Hollogne (Belgium) | 22.43                      | 31/12/2016                          | 2,550,389                        | 333,887                      | 1,759,542                               |

\* unaudited figures

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 2017, the Company has a receivable of EUR 36,576,172 from affiliated undertakings (2016: EUR 24,080,621).

## Note 9 – Other debtors

As of 31 December 2017, this caption mainly comprises a receivable of EUR 8,244,205 (2016: EUR 7,673,176) in the context of the mechanism of compensation, income tax recoverable of EUR 10,805,470 (2016: EUR 6,877,035), and VAT receivable of EUR 3,199,178 (2016: EUR 2,828,612).

## Note 10 – Own shares

Pursuant to a merger of Communes and according to 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 exceeding revenues as accepted by the ILR, tariffs for subsequent years will be reduced and consequently such negative difference is provided for.

According to the regulation scheme, a cumulated difference (2017 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 109,122 (2016: EUR 3,542,111) and when negative, in the caption Deferred income for an amount of EUR 25,033,017 (2016: EUR 25,174,596).

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 7,627,249 paid to Luxmetering G.I.E. are posted under the caption "Prepayments" (2016: EUR 4,983,510).

The same caption also comprises prepaid expenses related to rental charges relating to a subsequent financial year for an amount of EUR 92,975 (2016: EUR 92,975).



## Note 12 – Capital and reserves

As at 31 December 2017, 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:

|                                       | 31/12/2016         | Distribution of dividends  | Allocation of previous year's profit | Profit or loss of the financial year | Other movements         |                           | 31/12/2017         |
|---------------------------------------|--------------------|----------------------------|--------------------------------------|--------------------------------------|-------------------------|---------------------------|--------------------|
|                                       | 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                        | 193,430,486        |                            | 30,440,000                           |                                      |                         | (5,300,000)               | <b>218,570,486</b> |
| Other available reserves              | 136,805,486        |                            | 18,000,000 <sup>1)</sup>             |                                      |                         |                           | <b>154,805,486</b> |
| Other non available reserves          | 56,625,000         |                            | 12,440,000 <sup>1)</sup>             |                                      |                         | (5,300,000) <sup>1)</sup> | <b>63,765,000</b>  |
| Profit brought forward                | 6,467,318          |                            | (7,943,721) <sup>1)</sup>            |                                      | 5,300,000 <sup>1)</sup> |                           | <b>3,823,597</b>   |
| Profit or loss for the financial year | 57,277,592         | (34,781,313) <sup>1)</sup> | (22,496,279) <sup>1)</sup>           | 40,897,787                           |                         |                           | <b>40,897,787</b>  |
| <b>Total</b>                          | <b>665,943,630</b> | <b>(34,781,313)</b>        | <b>0</b>                             | <b>40,897,787</b>                    | <b>5,300,000</b>        | <b>(5,300,000)</b>        | <b>672,060,104</b> |

1) Decision of the ordinary general meeting of shareholders of 9 May 2017.

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 63,765,000 for 2012 to 2017. The amount allocated for 2011, EUR 5,300,000, was released to retained earnings as at 31 December 2017 (Note 15). This reserve is non distributable for a period of five years from the year following that during which the Net Wealth Tax was reduced.

## 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 3.65%
- estimated wage at time of retirement.

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 2017, expenses for the pension scheme amount to EUR 888,250 (2016: EUR 797,515).

### 13.2. Other provisions

The caption “Other provisions” comprises provisions to cover untaken holidays for employees of EUR 4,875,676 (2016: EUR 4,475,763) and provisions for regulatory risk for an amount of EUR 1,500,000 (2016: EUR 3,483,630). According to the regulation scheme, the authorised revenue derived from large investment projects can be adjusted based on the actual amounts invested.

## 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 2017, is owed a cash amount of EUR 34,952,162 by the Company (2016: EUR 21,507,084). 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 26,244,780 owed to affiliated undertakings becoming due and payable within 1 year (2016: EUR 10,469,496), 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 Indebtedness (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 2017 amounts to EUR 754,624 (2016: EUR 789,460).

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%.

## 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 16 October 1934 as amended, Creos Luxembourg S.A. will opt for the reduction of the net wealth tax due for the year 2017 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 2017, income tax debts cover principally the year 2015. For the years 2014, 2016 and 2017 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 2017, these other tax debts amount to EUR 2,407,594 (2016: EUR 2,086,248).

### 15.2. Other creditors

This caption mainly includes salaries to be paid.

## Note 16 – Net turnover

Net turnover for the year 2017 breaks down as follows:

|                                  | 2017               | 2016               |
|----------------------------------|--------------------|--------------------|
|                                  | EUR                | EUR                |
| Sales grid power                 | 147,796,633        | 158,630,056        |
| Sales grid gas                   | 51,779,099         | 57,384,203         |
| Metering revenues                | 18,292,372         | 18,635,578         |
| Energy sales power (equilibrium) | (1,314,969)        | (103,550)          |
| Other revenues                   | 27,187,350         | 23,498,468         |
| <b>Total</b>                     | <b>243,740,485</b> | <b>258,044,755</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 2017, the Company had on average 683 employees (2016: 669). The figure in 2017 includes the staff of the City of Luxembourg made available to Creos Luxembourg S.A. (90 employees), the costs of which are shown under wages and salaries for EUR 8,884,661 (2016: EUR 9,906,767).

Due to the improvement of the presentation of the annual accounts (see Note 1), the captions “Social security costs” and “Other staff costs” have been redefined. The caption “Social security costs” relating to pensions includes employer’s share of social security costs relative to legal pension contributions. The caption “Other staff costs” includes pension costs related to the supplementary pension scheme. The amounts of 2016 have been accordingly reclassified.

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

This caption includes the dividends paid by Creos Deutschland Holding GmbH for an amount of EUR 6,781,278 (2016: EUR 5,812,524).

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

Remuneration paid to members of the administration and supervisory bodies totalled EUR 684,000 (2016: EUR 673,500). 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 (2016: EUR 1,000,992).

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

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.

No other major post balance-sheet event has occurred affecting the 2017 accounts.



## Audit report

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

#### Report on the audit of the annual accounts

##### *Our opinion*

In our opinion, the accompanying annual accounts give a true and fair view of the financial position of Creos Luxembourg S.A. (the "Company") as at 31 December 2017, 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 annual accounts.

##### *What we have audited*

The Company's annual accounts comprise:

- The balance sheet as at 31 December 2017;
- The profit and loss account for the year then ended; and
- the notes to the annual accounts, which include a summary of significant accounting policies.

##### *Basis for opinion*

We conducted our audit in accordance with the Law of 23 July 2016 on the audit profession (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 annual accounts" section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

We are 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 annual accounts. We have fulfilled our other ethical responsibilities under those ethical requirements.

##### *Other information*

The Board of Directors is responsible for the other information. The other information comprises the information stated in the Management report but does not include the annual accounts and our audit report thereon.

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

In connection with our audit of the annual accounts, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the annual accounts 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 that fact. We have nothing to report in this regard.

##### *Responsibilities of the Board of Directors*

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

In preparing the annual accounts, 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 annual accounts*

The objectives of our audit are to obtain reasonable assurance about whether the annual accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue an audit report 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 annual accounts.

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 scepticism throughout the audit. We also:

- identify and assess the risks of material misstatement of the annual accounts, 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 the 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 audit report to the related disclosures in the annual accounts 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 audit report. 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 annual accounts, including the disclosures, and whether the annual accounts 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 annual accounts and has been prepared in accordance with applicable legal requirements.

PricewaterhouseCoopers, Société coopérative  
Luxembourg, 29 March 2018  
Represented by Christiane Schaus



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.

**Publication team:**

**Coordination:**

Under the leadership of the Communication department Creos Luxembourg S.A.

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