



power [noun (1) strength (2) authority (3) electricity, especially when considering its use or production (4) abilities, a natural ability or skill to do something (5) energy]

effect [noun the result of a particular influence]

What we do has an impact. Our innovations transform the power market. Prices matter. By delivering a fair market price every hour of every day, we contribute to the emancipation of the consumer. We drive change by anticipating the needs of the society. We accelerate the energy transition. We are European. We empower our teams. We are part of EEX Group. Discover our Power Effect.



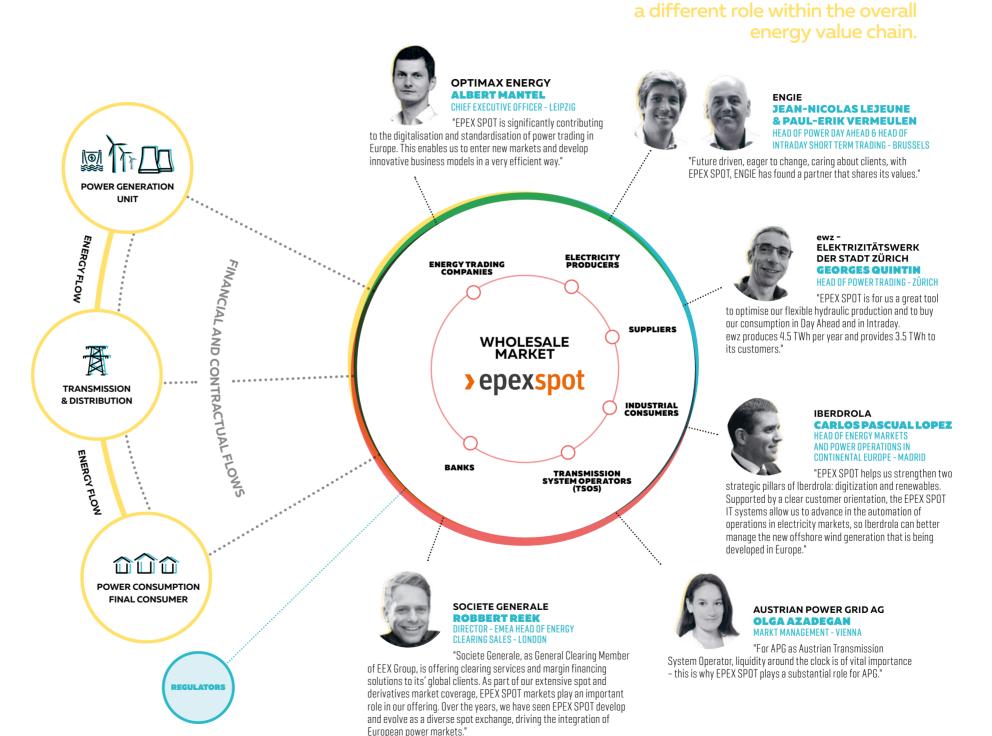


WE ACCELERATE YOUR

BUSINESS

In 2017, 285 members from 23 countries traded on EPEX SPOT. Our markets bring together a variety of actors along the electricity value chain who trade on EPEX SPOT for various reasons, but with the same ultimate goal: to accelerate and optimise their business.

INDUSTRIAL CONSUMERS are active in energy intensive industries and directly buy electricity on the wholesale market at best possible price. **ENERGY TRADING COMPANIES** bundle expertise in the management of energy portfolios on behalf of their clients, who own power producing assets. Transmission system operators (TSOS) mainly trade on the Intraday market to compensate their grid losses. In the context of renewables and green energy, TSOs also market electricity in the framework of the respective regulatory scheme (see page 34). **ELECTRICITY PRODUCERS** such as utilities trade on the spot market to adjust discrepancies between electricity production and supply of their customers. SUPPLIERS can be municipal or regional, their mission being to supply consumers with electricity. As they do not necessarily own power producing assets, they are active on the spot market to purchase electricity. BANKS and financial institutions do not necessarily own power producing assets, but they manage power trading portfolio on behalf of their clients, bringing additional liquidity to the wholesale market.



Our market participants are as diverse

as their businesses. They all play

CREATING AN ENERGY

COMMUNITY

Unified power trading systems in Central Western Europe.

In January 2017, EPEX SPOT has successfully transferred all trading products for the Dutch and Belgian Dayahead market to the EPEX Trading System ETS. This marks the last milestone in the harmonisation of trading systems in Central Western Europe (CWE), after the merger of EPEX SPOT with former APX Group in 2015.

Step by step we've come a long way

All clearing operations were already transferred to European Commodity Clearing (ECC) in March 2016. Clearing members hence benefit from the services of the leading clearing house for energy and commodity products in Europe. As part of EEX Group, ECC assumes the counterparty risk and guarantees the physical and financial settlement of transactions, providing security and cross-margining benefits for its customers. The Dutch and Belgian Intraday markets were migrated to the M7 trading system in October 2016.

The migration of the Dutch and Belgian Day-ahead markets marks the last milestone in the creation of a Central Western European energy community with unified power trading systems and under one rulebook.



THE EPEX TRADING SYSTEM ETS

The EPEX Trading System, also referred to as ETS, is a robust and reliable trading platform used for EPEX markets with auction modality. For coupled auctions it uses the Euphemia algorithm, which calculates European-wide reference prices based on optimised electricity flows. Over the years, ETS has become a flagship trading solution which is constantly upgraded and improved to accommodate new trading segments and additional market areas.

MILESTONES OF SYSTEM MIGRATION AFTER THE MERGER

MARCH 2016 -

All clearing operations of former APX Group for the Belgian, the Dutch and the UK markets were transferred to European Commodity Clearing ECC, part of EEX Group.

OCTOBER 2016

The Dutch and Belgian Intraday markets were transferred to the M7 trading system, used on all EPEX Intraday markets.

IN 2018

Migration of the UK Day-ahead and Intraday markets to ETS and M7 respectively.



50-MINUTE

CONTINUOUS TRADING

Make every half-hour count: the introduction of 30-minute continuous trading.

After the growing success of the 15-minute products on the German, Austrian and Swiss markets, EPEX SPOT has introduced 30-minute continuous trading for France, Germany and Switzerland in March 2017, enabling local and implicit cross-border trades.

Tailored for France, with a benefit for the European neighbours

This product was tailored to the needs of the French market, to help market participants to fulfil their balance requirements towards the French transmission system operator and to manage emerging flexibility challenges more efficiently. Cross-border trades mean an increase of trading opportunities for the German and Swiss market.

And indeed, an average of 61% of trades on the 30-minute continuous market are made cross border, illustrating that even though the product was designed for the French market, the neigbouring markets of the European energy community also benefit from it.



OF THE TRADES
ARE CROSS BORDER
TRADES.





DR. JÜRGEN KRONEBERG CHAIRMAN OF THE SUPERVISORY BOARD OF EPEX SPOT

What role does EPEX SPOT play in the European power landscape, and how has its role evolved over time?

JK: EPEX SPOT started off as a courageous and unexpected endeavor. By merging the spot businesses of German EEX and French Powernext a truly European trading platform was created, providing liquidity, security and transparency for market participants. Back then we were at the crossroads in the construction of a pan-European electricity market, and it is impressive how far we have come in this undertaking, not least thanks to the doing of EPEX SPOT and its partners. Today EPEX SPOT delivers a fair and transparent market price, contributes to the achievement of the Internal Energy Market, facilitates the energy transition and innovates to find market-based solutions for challenges along the electricity value chain.

How would you describe EPEX SPOT's part within EEX Group?

JK: The spot market operated by EPEX SPOT is closely interwoven with the activities of other companies of EEX Group, especially with regard to the futures market. In addition to this, with its eight European markets, its seven offices in seven different countries and employees from over 15 nationalities, EPEX SPOT contributes to the international spirit of the Group.

in the upcoming years?

JK: EPEX SPOT's modus operandi has been proven verv efficient, especially in its particular European context where liquidity and customer satisfaction have to be earned. Through the merger with former APX Group a strong structure was built, unique in governance and setup. EPEX is well set to face upcoming challenges such as competition and the 3D trends. With its expertise EPEX will continue to drive European market integration, for instance through the provision of trading and Market Coupling services.

What role do values play for EPEX SPOT to achieve their goals?

JK: The entrepreneurial model of the European Power Exchange already illustrates the openness and orientation towards dialogue. By the establishment of an Exchange Council EPEX SPOT has opened a permanent two-way street of interacting with their customers. The shareholder structure between EEX Group (51%) and HGRT (49%), a holding composed of Transmission System Operators, shows that EPEX has chosen to be as inclusive of as many interests as possible. The interplay and the balance of all these interests in the Exchange's actions are part of the success.

How would you describe the "spirit" of EPEX SPOT and of the people who work there?

JK: There is a real European spirit and a passion for markets, for the benefit brought to society by providing a robust price signal, and a true commitment to excellent customer service.

THE EPEX SPOT GOVERNANCE

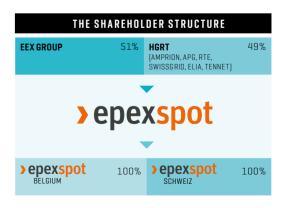


THE SUPERVISORY BOARD OF EPEX SPOT

HANS-JÜRGEN BRICK CHIEF COMMERCIAL OFFICER AT AMPRION GMBH — OLIVIER GRABETTE EXECUTIVE VICE-PRESIDENT OF RTE THOMAS KARALL CHIEF FINANCIAL OFFICER OF AUSTRIAN POWER GRID AG (APG) — JÜRGEN KRONEBERG (CHAIRMAN), LAWYER AND CHAIRMAN OF THE SUPERVISORY BOARD OF EEX — MELCHIOR KROON (DEPUTY CHAIRMAN) CHIEF EXECUTIVE OFFICER AND CHAIRMAN OF THE EXECUTIVE BOARD OF TENNET HOLDING BY — EGBERT LAEGE CHIEF EXECUTIVE OFFICER OF POWERNEXT SA AND MEMBER OF THE MANAGEMENT BOARD OF EEX TOBIAS PAULUN CHIEF STRATEGY OFFICER OF EUROPEAN ENERGY EXCHANGE AG — CHRIS PEETERS CHIEF EXECUTIVE OFFICER OF ELIA GROUP PETER REITZ (DEPUTY CHAIRMAN), CHIEF EXECUTIVE OFFICER OF EEX AND EUROPEAN COMMODITY CLEARING AG (ECC) — HANS E. SCHWEICKARDT CHAIRMAN OF THE SUPERVISORY BOARD OF POLENERGIA HOLDING — JÖRG SPICKER HEAD MARKET AND MEMBER OF THE EXECUTIVE BOARD OF SWISSGRID AG IRIS WEIDINGER CHIEF FINANCIAL OFFICER OF EUROPEAN ENERGY EXCHANGE AG



JEAN-FRANÇOIS CONIL-LACOSTE CHAIRMAN OF THE MANAGEMENT BOARD AND CHIEF EXECUTIVE OFFICER JONAS TÖRNQUIST CHIEF OPERATING OFFICER THIERRY CAROL CHIEF FINANCIAL OFFICER



TRADED

MOTALLE

A total of 534,671,647 MWh was traded on EPEX SPOT in 2017. The Intraday market reached an all-time high again, beating the previous record by 15.1%, with 71,010,723 MWh traded.

COUNTRIES



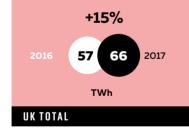
MARKETS REPRESENTING 50% OF EUROPEAN ELECTRICITY CONSUMPTION.

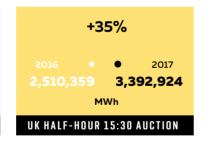
MEMBERSHIP

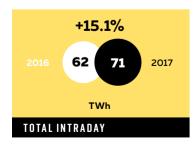


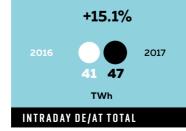
MEMBERS WERE ACTIVE ON THE EXCHANGE IN 2017, WITH 23 NEW MEMBERS REGISTERED.

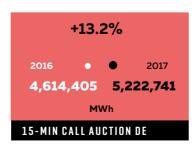




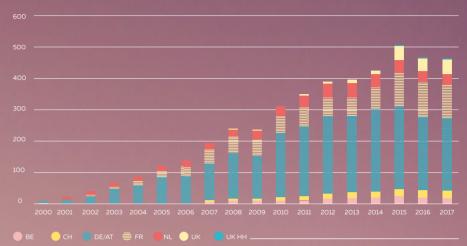




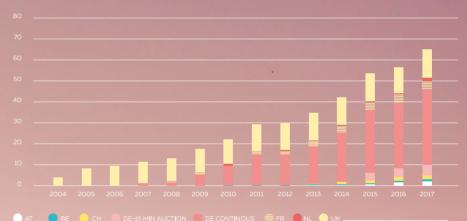




YEARLY DAY-AHEAD VOLUMES



YEARLY INTRADAY VOLUMES



are very active both locally and cross-border.

trades represent on average 20% of total traded volume.



All sub-hourly trading products display growth in volumes in 2017, illustrating the prevailing importance of flexibility products to efficiently integrate renewables.



THIERRY CAROL

CHIEF FINANCIAL OFFICER & MEMBER OF THE MANAGEMENT BOARD OF EPEX SPOT

In July 2017 Thierry Carol was appointed Chief Financial Officer of EPEX SPOT and joined the Management Board of the Exchange. But Thierry is not a stranger to the company, as he was part of the founding team of Powernext back in 2000.

What motivated you to move from Powernext to EPEX SPOT?

There are several reasons that made a move from Powernext to EPEX SPOT a logical step for me personally and professionally. There is of course a human story behind it. Both companies and their creation are strongly interwoven. I was with Powernext since the very start and was closely involved in the creation and development of the French power market as Sales and Marketing Director. Back then I lived seven years of challenging and inspiring entrepreneurship. Then the idea of founding EPEX SPOT emerged, the initiative to fuse the power spot businesses of Powernext in Paris and of EEX in Leipzig, an endeavor that was completely unique in Europe. When the carbon emissions were externalized into another business, I stayed with this newly created spin-off. After few years in the carbon business and at an investment bank I had the opportunity to join Powernext again in 2011, as Deputy CEO, when EPEX had already fully hit the ground running. Joining EPEX last year meant returning "home" to a company whose creation I had actively supported, and to people I loved to work with.

The European spirit and setup of EPEX SPOT has always been a very interesting factor for me. The success of the company is largely due to our commitment, our creativity and our customer focus that we bring to everything we do. To me it is a thrilling challenge to make sure that we preserve and nurture these traits in a fast changing and evolving energy landscape, and to even reach new dimensions.

Last but not least, I am convinced that EPEX SPOT plays a fundamental role for the European power system. Besides our core activities of operating Dayahead and Intraday markets, EPEX SPOT is contributing actively to the digitalisation, decarbonisation and decentralisation trends the power market is facing.

What incorporates for you the "Power Effect" of EPEX SPOT? What makes us special in what we do?

In a way we are about community management: markets are a way of achieving a synthesis between market participants and through emerging reference prices. We are not only designing markets solutions in close collaboration with market participants, but we also positively impact the society, because reliable reference prices contribute to the optimisation of electricity flows in Europe. That is our "Power Effect".

When EPEX SPOT was set up in the beginning, we were a group of experts in markets, and we quickly brought different profiles with their unique sets of skills into the company. We started off with mixing completely different types of expertise and we still do that today, and to me this is a key factor of our success. This is also our "Power Effect".

What do you expect from the upcoming years, the challenges and the opportunities?

The challenges of the upcoming years are fundamental. We are currently jumping into a brand new decentralised energy world. We are currently jumping into a brand new energy world, where the consumer will become a prosumer. In the future we could not only connect our current key stakeholders but all consumers, each and every European citizen. We have the unique opportunity to redefine the DNA of an Exchange. New and disruptive technologies will give us the opportunity to explore entirely new grounds, a very exciting challenge.



THE ROLE OF HAPPINESS -

HOW WORKING CONDITIONS SUSTAIN THE PERFORMANCE OF EVERYONE

To create an environment where everyone can express their full potential, we encourage employees to be in the driver's seat of their own career.

To be ahead of new methodologies and technologies, a change of the professional work environment is supported. In terms of HR strategy, we follow our own concept of the 3D: digitalisation, determination and diversification. The goal is to increase motivation, employability and efficiency among all staff members – and to ultimately increase happiness at work.



To create an environment where everyone can express their full potential, we encourage employees to be in the driver's seat of their own career.



VICTOR NEAGU IT SECURITY OFFICER

"In security management, while sharing the Group policies, key information assets differ per company, as well as the associated security risks related to the individual business profile.

When I performed IT internal audit in the Group, I saw what good specialists and open personalities the Group has, a true asset. A multicultural company and Group require time, effort and perseverance in understanding the cultural differences, respecting and working with them."



DR. MAXIMILIAN RINCK SENIOR BUSINESS DEVELOPER

DELPHINE STRUNSKI

"When I joined Powernext back in 2011. I

couldn't imagine that 7 years later I would

the power business with EPEX SPOT, met

and worked with this great amount of

have changed position four times, moved to

colleagues from the Group from all different

locations and nationalities, and that Leipzig

would be the place I travel the most to!"

PARIS —

LEIPZIG —

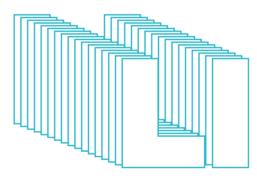
"When I joined ECC in 2011 developing spot margin models I also started a iourney through the diversity of power markets: In 2014, I moved to EEX designing Energiewende-Products, the ID3-price, and the Phelix-DE contract. Since 2017, I've been with EPEX SPOT working on decentralised and regional markets."



CARLOS URRO

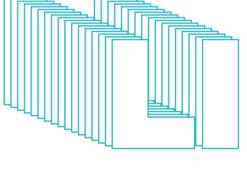
SENIOR KEY ACCOUNT MANAGER LONDON —

"I started as Senior Key Account manager in 2017 and was immediately impressed by the special atmosphere of the London office, which is a true Group office with colleagues from many different companies. As the spot business is a very dynamic business, no day resembles the other, and I'm excited about what the future at EPEX SPOT holds for me."



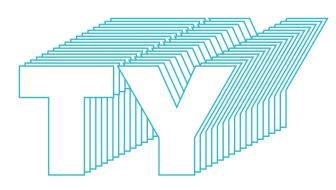
GHIZLAN ACHKARI HEAD OF MARKET OPERATIONS AMSTERDAM —

"As Head of Market Operations I am based in Amsterdam and travel to our Leipzig team very frequently. I really appreciate the energy and diversity within EPEX SPOT and EEX Group. And the fact that the operational team of EPEX SPOT is in touch with market operations from other companies, which keeps us sharp and enriches the overall professional experience."



CÉLINE MAURER HUMAN RESOURCES BUSINESS PARTNER

"I joined EPEX SPOT in 2010 and have held a variety of positions ever since, from Market Operations to Human Resources at solely EPEX SPOT, to HR for both EPEX SPOT and Powernext today. The Group widens the professional experience of the employees and simplifies the sharing of best practices. The multicultural experiences we live every day at EPEX SPOT is echoed in the HR Group multicultural approach."





A STRONG

COOPERATION

FOR CENTRAL AND SOUTH EASTERN EUROPE

Together with our partners, EPEX SPOT will help creating a new Power Exchange in the region.



The Transmission System Operator (TSO) ELEKTROMREŽA SRBIJE (EMS), the European Power Exchange EPEX SPOT, Hungarian Power Exchange HUPX, the TSO MAVIR and South East European Power Exchange SEEPEX have signed a Memorandum of

Understanding, committing to the creation of a crossregional Power Exchange in the Central and South Eastern European region.

A partnership that brings Europe closer together

This pentalateral agreement foresees a merger of the spot businesses of Power Exchanges HUPX and SEEPEX. EPEX SPOT, as well as TSOs EMS and MAVIR will act as founder shareholders of the newly established exchange, while relying on EPEX SPOT services for Day-ahead operational and coupling activities. This partnership considerably approaches the Central Western European (CWE) Region with the

Central Eastern European (CEE) Region and will be a main driver in the envisaged integration of the SEE region with the Internal Electricity Market. Most importantly, the partnership remains open for additional partners wishing to bring European power markets closer together.

Built on a solid foundation

A TRIP AROUND EUROPE
UNTANGLING ABBREVIATIONS

EPEX SPOT has historically close ties with both HUPX and SEEPEX, being the service provider for market operation services for both, providing market coupling services for the former and holding 25% of the shares of the latter. European Commodity Clearing, provides clearing and settlement services for both Exchanges.



COMMON CHALLENGES AND

SHAREDVISIONS

The APEx conference in Brussels gathers highly recognised speakers from the energy industry in Brussels – presented by EPEX SPOT.

From 24 to 26 October 2017 the Association of Power Exchanges APEx held its 22nd annual conference, hosted by EPEX SPOT. During various panel discussions 135 participants from 30 nations were able to debate on current strategically important issues related to power markets and their operation. The diverse topics ranged from risk management and energy market integration to competition and grid reliability.



During the two day conference 7 panel discussions around power market topics were organised, along with several key-note speeches and networking breaks.

And what better place to assemble such a diverse audience than in Brussels, the multinational capital of Europe!

Around the world in 54 hours

Despite the inherently local nature of electricity systems, the macrotrends of decentralisation, decarbonisation and digitalisation have a global impact, transforming the power sector on all levels of the value chain. The challenges that emerge from these trends are shared globally. Power Exchanges were identified as key players in the smooth functioning of the energy

APEx is an international organisation uniting Power Exchanges from around the world, with currently 50 member organisations. APEx was founded to facilitate development and communication of ideas and practices in the operation of competitive electricity markets across the globe. The APEx conference is held annually, and the 2018 conference is taking place in Wellington, New Zealand.



driver, were discussed.

The first conference day ended with a Gala Dinner at "Vaudeville Theater", inaugurated in 1884 and now listed as historic monument.



system, and the achievements of the European Market Coupling Model, of which EPEX SPOT has been a main

The debates have shown that a look at market structures

outside of Europe is worthwhile to advance the

European discourse. The annual gathering of actors of

the energy industry from around the world has this very

purpose: to provide an opportunity to exchange

The first day of the conference was organised together

with GO15, a voluntary initiative of the world's 18 largest

Power Grid Operators, representing together more

As a main driver in the advancement of European Power

Markets, EPEX SPOT is proud to have had the opportunity

to host this event and to have acted as European

knowledge on the best energy market practices.

than 70% of the world's electricity demand.

ambassador towards an international audience.

Broadening the European horizon

The conference concluded with a Closing Dinner at "Bibliothèque Solvay", a prestigious building in the heart of Leopold Park.

TRAINING PROGRAMS

EPEX SPOT offers a wide range of training programs available to members and non-members alike. Our E-learning modules are designed to transmit knowledge in an innovative and interactive way, and by using a variety of digital tools.

Learn more about the functioning of European power markets and energy trading by entering a course that fits your needs – whether you are a trader or an energy professional.

For the complete E-Learning offer and registration please visit www.epexspot.com/en/elearning or contact elearning@epexspot.com

HERE IS A SELECTION OF OUR E-LEARNING OFFER

SPECIFICITIES OF
THE POWER MARKET -
IN COOPERATION
WITH RTE

A pack of courses on the Capacity Mechanism, the dynamics of power generation and consumption, market balancing and much more.

MARKET COUPLING IN EUROPE

Which are the main principles and advantages?
From cross-border interconnections to the evolution and objectives of market coupling initiatives in Europe, there is a lot to learn about the process of market integration.

PARTICIPATING IN THE ELECTRICITY WHOLESALE MARKET

Introduction to the electricity wholesale market: opportunities and risks, players and ro les, including case studies.

MARKET DATA OFFERS

Data means knowledge, and knowledge means understanding. The in depth analysis of EPEX SPOT market data can give you the insights you need for your business. Our Market Data offers grant access to real-time, delayed or end-of-day market data of EPEX SPOT market areas: DE, AT, FR, UK, NL, BE and CH.

For more information on Market Data offers, terms of use and prices please visit www.epexspot.com or contact marketdata.sales@epexspot.com

HERE IS A SELECTION OF OUR MARKET DATA OFFER:

End of Trading Session (EOD) market data for internal use: DE, AT, FR, CH via Website and FTP server Real-time access to M7 EPEX SPOT Intraday continuous trading system via an API



The energy sector is being disrupted and constantly challenged across the value chain, through the development of renewables, the emergence of local power communities and the increasing development of demand-response, electric vehicles, batteries, storage, Internet of Things and so on.

Thanks to innovative technologies new business models emerge, and this particular initiative with its pilot projects in Europe is exemplary in tomorrow's new world of energy.



MICROGRIDS WITH MACRO



LO3 Energy and EPEX SPOT team up to connect local microgrids to the wholesale market. Clean energy and blockchain are the ingredients to empower the prosumer in a sustainable manner.

In December 2017, the Brooklyn-based startup LO3 Energy and EPEX SPOT have signed a Memorandum of Understanding, committing to developing a solution that connects local microgrids to the wholesale market.

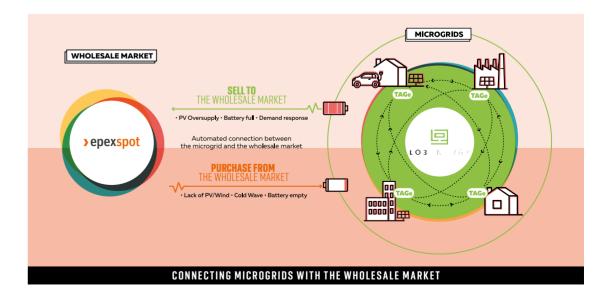
Opposites attract – and complement each other

Both companies have an diametrical yet complementary expertise: LO3 is a technology and business development consulting firm with a focus on emerging decentralised business models and innovative technologies related to energy, cleantech and currency systems. They use new technologies such as blockchain to put the user at the core of the energy business model.

EPEX SPOT innovates to diversify the European power market and to solve challenges of the energy sector through market-based solutions.

My friend and neighbour – and trading counterpart

In spring 2016, LO3's first initiative connected 5 households in Brooklyn, called the Brooklyn Microgrid: consumers and producers are connected and end-users are turned into producers – a phenomenon usually referred to as prosumers. Prosumers are consumers producing electricity through individual devices, such as solar panels placed on the roofs of their residential buildings.





Today the Brooklyn Micro Grid gathers more than 60 participants.

By enabling peer-to-peer trading between them at the microgrid level, LO3 Energy's technology provides them with the ability to determine how they generate, consume, store and sell their energy to the other prosumers connected to the microgrid. The use of the blockchain technology allows all transactions to be handled in a decentralised and secured way. On this peer-to-peer market, prosumers feed power generated by their solar panels into the microgrid and buy and sell energy directly from one another, based on demand, supply, market conditions and individual preferences.

The power of the wholesale price

EPEX SPOT brings to the table a solid expertise in the operation of centralised power markets, based on reliable trading systems, transparent market rules and adequate price formation. If the prosumers of a microgrid want to determine the real value of their generated electricity, the wholesale market is the way to go. This is why both companies have planned to combine their know-how by connecting their systems and plugging local microgrids into the wholesale power market. On one hand, this will increase liquidity and the number of overall market opportunities, especially when microgrid supply is not sufficient. On the other hand, this allows prosumers:

- to feed excess electricity back into the grid and receive payments in return;
- · to purchase in case of energy shortfall or low prices;
- to optimise energy consumption at a local level, by timely synchronising consumption behavior with the wholesale price, such as recharging of a battery at a time when the wholesale price is lowest.

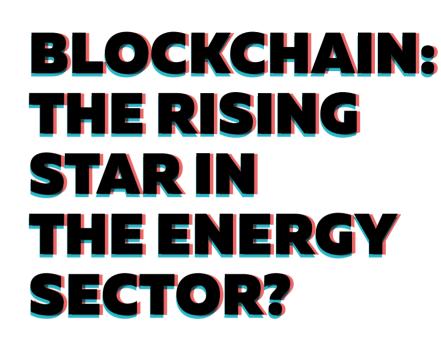
Empowering the consumer strengthens energy resiliency

Microgrid participants will be able to value their surplus, benefiting from a transparent and trustworthy price signal. The connection of the microgrid with the wholesale market provides market opportunities, an outlet in case of overproduction on the micro level as well as access to the resources of the wholesale market in case of a production shortage on the microgrid; all with the benefit of a reliable reference price as basis for all trades

This project strengthens the overall energy resiliency and security of supply. Peak consumption periods could then be handled more efficiently. Consequently, in the longer run, this will support the integration of decentralised renewable energy sources, and working together with industry players such as grid operators could help balancing and congestion management.

The initiative will be implemented step by step through pilot projects across Europe. The transformation of the energy sector has begun, and together with our partners EPEX SPOT is a driving force to shape the future of power markets.



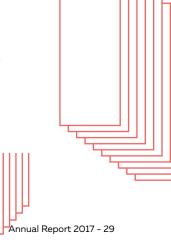


How the democratisation of transactions opens new doors for power trading.

Blockchain has definitely become one of the hottest topics of the 3D energy world. After a period of discovery and discussion, pilot projects involving the technology are currently being launched across Europe. But how does the technology work, and how could it help to solve issues of the energy market?

Security through decentralisation

Blockchain is a decentralised and public digital ledger of transactions, held by all participants. Each transaction is secured and automatically registered, checked and approved at a high number of nodes of the network.



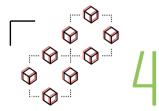




necked high

The transaction is checked and approved at a high number of nodes of the network using algorithms



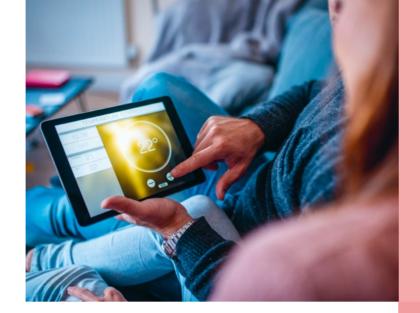


The block is timestamped and added to the blockchain which provides a transparent and immutable record of transactions



The transaction is approved and settled

BLOCKCHAIN



All transactions are secured in the blockchain in a decentralised way, which makes the system almost unhackable, as it is virtually impossible to compromise all nodes of the network simultaneously.

Transparency and access for all

• • •

The public information of a transaction passing through a blockchain network can be seen by anyone connected to the network, ensuring full transparency of transactions. No third party or middle man is required. The intermediary is replaced by the collective verification of the ecosystem, which offers an immense degree of security and traceability. This is why the technology raises a lot of interest within the energy sector and has the potential to contribute to its democratisation. It has the potential to bring great added value to peer-to-peer trading at a micro-local level, actively including end-consumers.

On top of the energy sector, the blockchain technology can be interesting for various industries including banking and financial markets, insurance, healthcare, etc.

EEX Group, a catalyst for innovation

Besides the initiatives of EPEX SPOT, further companies of EEX Group have been exploring the technology and its possible uses for their respective businesses. Besides the interdependent macro trends of digitalisation, decarbonisation and decentralisation, the global, regional and local dimension play an important role in the innovation strategy within EEX Group.









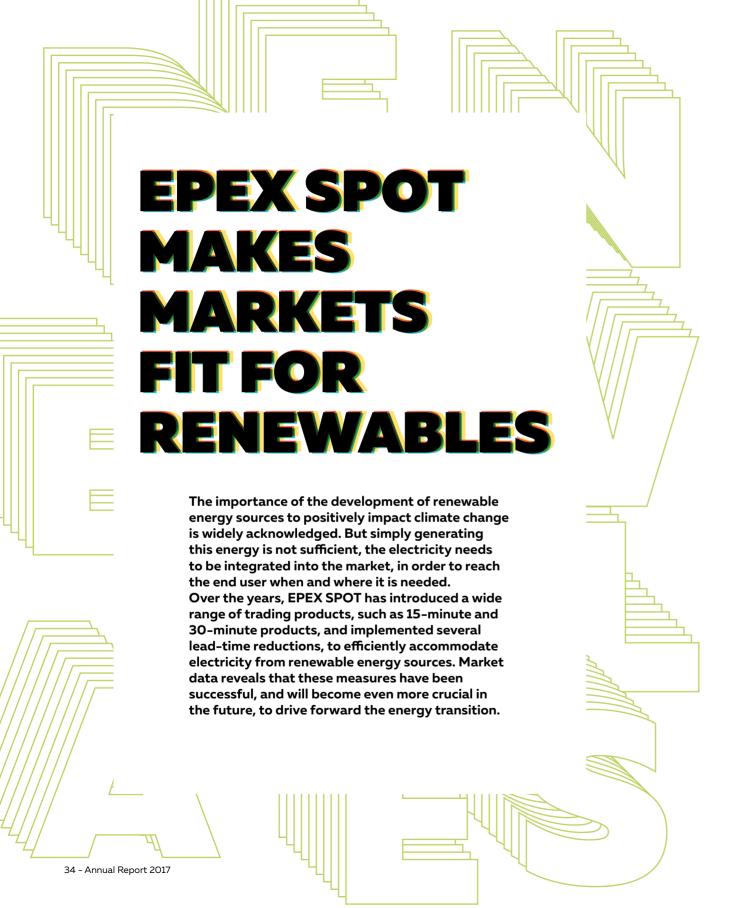






TRAN SITION/

IN 2017, FOR THE FIRST TIME EVER, MORE ELECTRICITY
IN THE EU WAS PRODUCED FROM RENEWABLES
THAN FROM COAL AND LIGNITE TOGETHER, REACHING
A TOTAL OF 30% OF THE OVERALL ENERGY MIX.
EPEX SPOT'S ROLE TO INTEGRATE THIS RENEWABLE ENERGY
INTO THE MARKET HAS BECOME INDISPENSABLE.



DIRECT MARKETING



A study of EPEX SPOT and the French-German Office for the Energy Transition (OFATE) shows the efficiency of direct marketing to integrate renewables.

MARKET PREMIUM - WHAT DOES IT MEAN AND HOW DOES IT WORK?

The market premium is calculated by deducting the market value – which is the monthly average EPEX SPOT price – from the reference tariff fixed by the regulator.

This means in turn that an incentive is created for plant operators to maximise proceeds by adapting their feed-in behavior according to the market price: If a given plant is operated efficiently, meaning electricity is sold when the price is high, and production is reduced when prices are negative, then profits will be above the average monthly EPEX price. The total profits will hence be above the reference tariff. The mechanism also secures plant operators against losses, since the market premium balances the difference between the average EPEX price and the reference tariff.

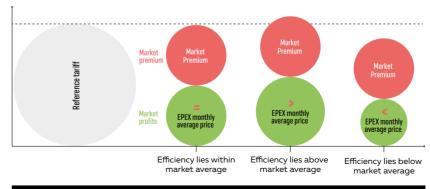
EPEX SPOT and OFATE have conducted an analysis on direct marketing mechanisms in France and Germany, in order to determine their efficiency and their capacity to integrate renewables into the power market.

Since 2012, Germany has implemented a direct marketing mechanism and 90% of wind power passes through this mechanism already. France has introduced a comparable direct marketing mechanism in 2015, which is why the market is still in the early stages.

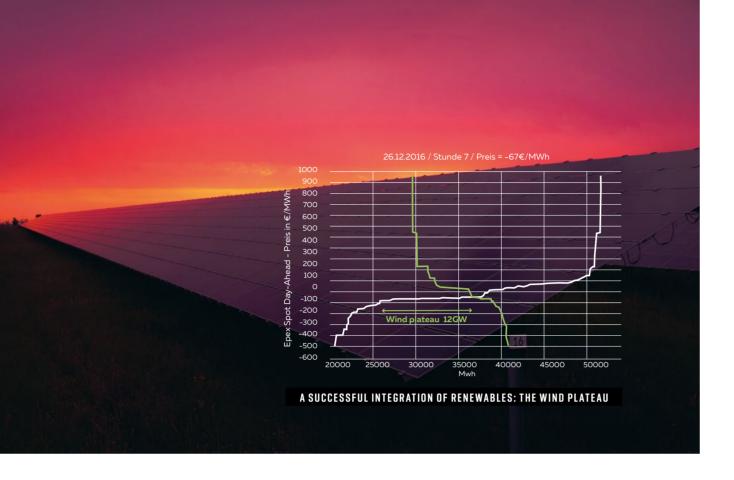
Direct marketing follows the following principle: Instead of receiving a fixed feed-in tariff, plant operators receive a flexible market premium. This serves as incentive to adapt electricity production according to the market price, for instance to reduce the feed-in rate when the market price is negative.



*market value refers to the monthly EPEX SPOT average price



MARKET PREMIUM MODEL



Direct Marketing and the spot market, a dream team that drives the energy transition

When analysing the traded volumes on EPEX SPOT, the growing importance of direct marketers can be stated on the German spot market. With the optional introduction of the direct marketing mechanism in 2012, more and more producers have decided to trade their volumes at the Power Exchange, a connection which is also confirmed by the high correlation of the monthly traded volumes of aggregators with wind generation in Germany.

A closer look at the aggregated curves – the study focuses on the curves of hour 7 of 26 December 2016, a windy day with a negative price of -67 €/MWh – reveals a phenomenon referred to as wind plateau. The wind plateau is a specific section of the sell curve. This illustrates that direct marketers act according to the market price signal when submitting their orders, a sign that the integration of renewables is successful.

It can be assumed that the 12 GW plateau represents wind energy, meaning electricity generated from wind plants which plant operators wish to sell through the Day-ahead auction. An analysis of all hourly aggregated curves of the month of December 2016 compared with wind forecast data revealed a striking correlation between the two. This is why we can infer that the sell-plateau represents wind energy sold by direct marketers.

This alignment of feed-in behavior with the market price confirms that Power Exchanges offer an ideal framework for the integration of renewables.

The full paper of EPEX SPOT and OFATE can be found here:



https://energie-fr-de.eu/de/systeme-maerkte/ nachrichten/leser/hintergrundpapier-zurdirektvermarktung-von-erneuerbaren-energienan-der-stromboerse html

TRADING AT THE SPEED OF



In 2017 and early 2018, EPEX SPOT implemented several lead-time reductions together with Clearinghouse ECC.

In Intraday trading, the term lead-time refers to the minimum time between the execution of a trade and the delivery of the traded electricity. As renewable energies depend highly on so-called fundamentals, meaning external influences such as sun hours or wind speed, last minute adjustments to correct forecast errors have become a key factor to improve the overall efficiency of Intraday markets.

On the Intraday market, every minute counts

By reducing the lead-time to close to real time, up until five minutes before delivery, EPEX SPOT and ECC facilitate the portfolio management of customers and allow them to make last-minute adjustments.

The graph shows that the importance of trades completed within the time span of 30 minutes and up to five minutes until delivery grows over time. The share of the German IDM volumes has grown from 1-2% during the first month after launch to more than 7% at the end of January 2018.

These measures also extend the timeframe of the trading window, and hence allow for more trading opportunities closer to real time.

More time for adjustments on all EPEX SPOT markets

In 2017, several markets benefited from lead-time reductions - with measurable impact on trading behaviour. On 2 November 2017, the lead time on the UK Intraday market was reduced by 60 minutes, from previously 75 minutes. Since then certain products of the UK Intraday market can be traded up until 15 minutes before the start of delivery. Trading until delivery was introduced in the four German control zones in June 2017. In 2015, EPEX SPOT and ECC reduced the lead-time on the Austrian, French and German market to 30 minutes, on the Swiss market to 60 minutes. In June 2017, lead-time within the German control zones was reduced to five minutes before delivery. Local Austrian and French contracts followed in January 2018 with a reduction to 5 minutes, the Swiss lead-time was reduced to 30 minutes before delivery.







EPEX SPOT outlines recommendations for the power market design of the future.

Since its inception, the European Power Exchange has been dedicated to actively shape the European Power Market for the better. This made us one of the architects of the Internal Energy market. Today, EPEX SPOT operates the largest and most important power markets, and the benefit that our trading products bring to our members is at the heart of our vision. We are proud to be an active voice in the regulatory discourse, representing our trading members' interests towards authorities across the continent.

Clean Energy Package: good news for wholesale markets, with potential for further improvement

Following the publication of the Clean Energy Package by the European Commission in late 2016, EPEX SPOT has outlined its vision for the power market design of the future. We generally welcome the proposals of the Clean Energy Package, as they recognise the importance of further developing competitive, non-discriminatory and market-based electricity markets while abolishing barriers to cross-border trade. EPEX SPOT puts forward seven points to improve the proposals made in the Clean Energy Package:

1

The underlying goal for any future market design should always be the fostering of efficient and liquid wholesale markets, as they are a prerequisite for competitive retail markets which in turn determine the price paid by the final consumer. Any new legislation should therefore remove possible barriers which hinder Power Exchanges from establishing, maintaining and enhancing their services according to the markets' needs.

For EPEX SPOT, innovation is the main driver to foster state of the art power trading.

2

Coupling is key: Market Coupling continues to play a major role in the advancement of European market integration. It optimises electricity flows across the continent, lowers wholesale prices, facilitates the integration of renewables and contributes to security of supply. Legislation should therefore aim at further abolishing barriers to cross-border trading.

Power Exchanges and regulating authorities are partners in the shaping of the future power market.

3

In the same line and logic, large and liquid bidding zones are the basis for well-functioning and competitive power markets. With regards to legislation it is key that bidding zones are defined by reference to transmission constraints. Consequently, imbalance price areas need to be drawn based on the existence of bidding zones and not the other way around. The full involvement of all key stakeholders in the decision-making process is indispensable to ensure an optimal outcome of the redrawing of bidding zones.

4

Prices matter. The reference price of electricity directly influences a variety of decisions which impact the entire electricity value chain: Decisions on short-term generation and consumption and on long-term investments in new generation capacity depend on the price signal of the wholesale market. Therefore unrestricted price formation is crucial. In a future market design, regulatory price caps should be removed entirely as only harmonised technical price limits – set by market operators such as Power Exchanges – are necessary.

5

A price signal stemming from the power wholesale market is the basis for a well-functioning energy value chain. This so-called "energy-only market" principle can however be complemented by a capacity market mechanism if applicable. In certain cases, such as on the French market, capacity mechanisms are an efficient asset to ensure generation adequacy. Legislation should ensure those capacity mechanisms are market-based, least distortive, technologically neutral and coordinated across national borders.

EPEX SPOT has been organising the French capacity auction since 2016, with a total of 46 819 MW traded up until today.

6

Short-term electricity markets with an adapted product range are key to efficiently integrate renewables into the market. This is why a future market design should foresee the possibility for customers to offer their flexibility in a market-based manner, such as via demand-side management and aggregation services. This process requires more coordination as currently the case.

7

Last but not least, a reliable regulatory
framework is the foundation for
Power Exchanges to operate in Europe.
The functions of Power Exchanges are usually
two-fold, consisting in regulated market
functions, such as market coupling for
instance, and in competitive market functions,
such as a diversified range of trading
products. Not only should the two remain
clearly separated from one another,
but regulatory oversight should be strictly
limited to what is needed.



THE INTEGRATED SINGLE ELECTRICITY MARKET



A European achievement powered by EPEX SPOT and ECC.

The implementation of the EU Guideline on Capacity Allocation and Congestion Management (CACM) triggered a real transformation of the power market landscape across Europe. Its objective is to promote effective competition in the generation, trading and supply of electricity across Europe.

In this context, the Republic of Ireland and Northern Ireland have been reforming their power markets, in order to be fully compliant with this new regulation. For this purpose the Irish transmission system operators EirGrid and SONI, both operating the single Irish transmission grid, have launched a tender. The tender comprised the operation of the Integrated Single Electricity Market in Ireland (I-SEM), including Day-ahead and Intraday markets, market coupling, as well as clearing and settlement activities.

EPEX SPOT and ECC won this tender in early 2017 and will support EirGrid and SONI to set up the local Power Exchange SEMOpx, which will operate the Day-ahead and Intraday markets in Ireland. ECC will assume clearing and settlement for all transactions concluded on SEMOpx.

EPEX SPOT and ECC have a long-standing expertise in the provision of market operation and clearing services: they have been providing market operation and clearing services to SEEPEX, the South East European Power Exchange, and to HUPX, the Hungarian Power Exchange.

This service provision allows market participants all over Europe to benefit from reliable trading and clearing solutions that have proven their efficiency on Europe's biggest power markets.

OUR OFFICES SPREADING THE POWER EFFECT ACROSS EUROPE



PARIS

Our headquarters are located in the French capital, within a market that took a late but considerable leap: With rather steady dynamic up until 2015, volumes traded on the French power market have almost doubled over the last years.



LONDON

In 2017, the UK is where the magic happened: traded volumes grew by 15%, reaching 66 TWh.

Competition amongst Power Exchanges is already in place on this market, and our colleagues in the London office are at the pulse of events.



AMSTERDAM

The Amsterdam office is major link within the network of EPEX SPOT offices, close to the mature Dutch market, a historical pioneer in market coupling.



VIENNA

The Austrian market is one of Europe's well developed power markets. The imminent split with Germany is co-managed by our colleagues in the Vienna office.



LEIPZIG

Germany is where the Energiewende happens. Our colleagues in the Leipzig office are right in the thick of it, and they are in good company, sharing the premises with EEX and ECC, both part of EEX Group.



REDI

While the Swiss Day-ahead market is not yet part of the Multi-Regional Coupling, the colleagues in our office in the middle of the European continent continue to carry the European voice into the Swiss power market.



BRUSSELS

A highly interconnected market means astrongly interconnected office. We share our premises with other colleagues from EEX Group companies, close to where European market regulation is made.



EPEX SPOT GROUP

ACCOUNTS

AS OF 31.12.2017

Basis of preparation

Since EPEX SPOT is fully consolidated in the financial accounts of EEX Group as of 31 December 2017, the company has no regulatory obligation to prepare any consolidated financial statements. Nevertheless, given the fact that the majority of the internal and group reportings are based on the International Reporting Financial Standards (IFRS) EPEX SPOT considered the presentation of a consolidated statement for the annual financial accounts as of 31 December 2017 as appropriate.

Therefore, these statements have been prepared on a voluntary basis and for information purpose only. Moreover, they only refer to the year ending as of 31 December 2017.

By way of simplification, the International Reporting Financial Standards (IFRS) as adopted by the European Union as well as the EEX Group standards have been applied to a limited extend and have not been audited.

PERIMETER OF CONSOLIDATION

The consolidated financial statements of EPEX SPOT SE as of 31 December 2017 have been prepared including the following statutory entities:

 EPEX SPOT SE
 100%
 Fully consolidated

 EPEX SPOT CH AG
 100%
 Fully consolidated

 EPEX Netherlands B.V
 100%
 Fully consolidated

 EPEX SPOT Belgium S.A
 100%
 Fully consolidated

 JV EPEX-SOOPS B.V.
 60%
 Fully consolidated with minority interest

 SEEPEX
 25%
 Equity result

Accounting information

In order to prepare the consolidated financial statements, EPEX SPOT SE relied on the statutory financial statements of the company as well as on its subsidiaries financial statements. They have been restated to ensure the consistency with the policies adopted by the group. This information has been reviewed by the auditor of each entity for the purpose of the EEX Group consolidation reporting.

The intercompany transactions, balances and unrealised gains/losses on transactions between group companies are eliminated.

As a result of the acquisition of the APX Group by the company EPEX SPOT SE, a Purchase Price Allocation (PPA) has been performed by the EEX Group for its consolidation. EPEX SPOT SE included the result of this PPA, unchanged, for the preparation of its consolidated statements.

1 - BALANCE SHEET

	31/12/2017	31/12/2016
ASSETS		
FIXED ASSETS		
Goodwill	11 046	11 046
Intangible fixed assets	27 818	26 012
Property, plant and equipment	1 851	1 972
Deferred tax assets	1 078	969
Financial assets	158	68
TOTAL FIXED ASSETS	41 951	40 068
SHORT-TERM ASSETS		
	22 215	18 585
Trade debtors and related accounts	22 213	
	5 290	5 771
and related accounts		5 771 O
and related accounts Other receivables	5 290	
and related accounts Other receivables Cash collaterals	5 290	0

STOCKHOLDER'S EQUITY AND LIABILITIES				
	31/12/2017	31/12/2016		
CAPITAL AND RESERVES				
Capital	6 168	6 168		
Premiums on shares issued, mergers, contributions	35 320	35 320		
Other reserves	-1902	4 299		
Profit for the financial year	22 049	16 733		
Minority interest	71	71		
TOTAL CAPITAL AND RESERVES	61 706	62 591		
LONG-TERM LIABILITIES Provisions	548	396		
	I			
Deferred tax liabilities	4 855	5 097		
TOTAL LONG-TERM LIABILITIES	5 403	5 493		
SHORT-TERM LIABILITIES				
Provisions	1 170	1679		
Financial liabilities	0	C		
Trade creditors and related accounts	12 829	8 0 0 8		
Cash collaterals	0	C		
Other liabilities	9 111	8 468		
TOTAL SHORT-TERM LIABILITIES	23 110	18 155		
TOTAL LIABILITY AND EQUITY	90 219	86 238		

COMMENTS ON BALANCE SHEET ITEMS

Goodwill

The goodwill results from the two following mergers:

- K€1,544 as a result of the merger of EPS (the German spot markets) into EPEX SPOT on January 1, 2009.
- K€9,502 as a result of the combination of the APX Group entities into EPEX SPOT subgroup consolidation (figures derived from the PPA performed at EEX level).

Intangible fixed assets

They mainly consist of:

Intangible Purchase Price Allocation (PPA):

This has been derived from the following allocation of intangible resulting from the acquisition of APX Group:

	Remaining useful life (years)	Net book value as at 31.12.2016	Amortization 2017	Remaining book value as at 31.12.2017	Allocation
Trademark APX	3	361	108	253	
Trademark Belpex	3	74	22	52	Concession,
Order_Backlog	-	52	52	-	patents and
Exchange License	infinite	114	-	114	similar assets
APX_Software P235 Remit	3	91	27	64	
TOTAL GOODWILL VALUE		693	210	483	
Customer relationship trading NL	18	12 303	671	11 632	
Customer relationship trading UK	16	2 762	169	2 592	Goodwill
Customer relationship trading BE	19	4 792	248	4 544	
TOTAL GOODWILL VALUE		19 857	1088	18 769	
TOTAL ALLOCATED		20 549	1298	19 251	

Other intangible assets

The net of those items amount to K \in 4,286 (2016: K \in 2,285). They are amortized according to the straight-line method over duration of 36 up to 60 months. They mainly relate to software and system developed internally for the purpose of the day ahead market coupling operations.

Assets under construction

This position amounts to K€4,279 (2016: K€3,177) and mainly contains investments for market coupling projects on Intraday Crossborder.

Property, plant and equipment

As of 31 December 2017, they mainly relate to hardware system for $K \in 4,797$ in gross value ($K \in 1,253$ in net), facilities equipment for $K \in 2,165$ in gross value ($K \in 536$ in net) and office materials and furniture for $K \in 328$ in gross value ($K \in 61$ in net).

Deferred tax assets

They mainly resulted from temporary tax differences as well as differences on accounting standard between local GAAP and IFRS.

• Trade debtors and related accounts

This item amounting to $K \in 22,215$ increased compared to the previous year (2016: $K \in 18,585$) as a result of the increased sales activities.

Other receivables

This position (K \in 5,290) represents mainly Receivables from affiliated companies for K \in 3,127 and prepaid expenses for K \in 986.

• Cash and cash equivalent:

The total cash position of €20.7 million is freely available to the EPEX SPOT Group.

Capital and reserves

No change in share capital. The legal reserve amounts to $K \in 617$ and therefore complies with the minimum mandatory requirement corresponding to 10% of the share capital.

• Deferred tax liabilities

This item refers to the temporary tax differences corresponding to the Purchase Price Allocation (PPA).

Long Term Provisions

This item contains several provisions for risks for different purposes by which individual amounts are deemed to be not material.

Trade creditors and related accounts

This item amounting to $K \in 12,829$ increased compared to the previous year (2016: $K \in 8,008$) as a result of increased project activities and efforts.

Other liabilities

This item contains mainly tax and social debts.

2. INCOME STATEMENT

	31/12/2017	31/12/2016
OPERATING INCOME		
Net turnover	79 608	77 126
Other income	120	1242
OPERATING INCOME	79 728	78 368
OPERATING CHARGE		
Other operating expenses	-28 295	-29 217
Employee benefits costs	-19 517	-20 419
Fixed assets: Appropriations to depreciation	-3 296	-2 976
OPERATING CHARGES	-51 107	-52 612
OPERATING PROFIT	28 621	25 757
OR LOSS		
FINANCIAL INCOME		
Financial income	0	363
Financial expenses	-50	-380
FINANCIAL PROFIT OR LOSS	-50	-17
Extraordinary incomes	0	0
Extraordinary charges	-240	0
EXTRAORDINARY PROFIT OR LOSS	-240	0
Equity result	-35	-54
Income tax	-6 248	-8 953
PROFIT OR LOSS	22 049	16 733

COMMENTS ON ITEMS OF THE INCOME STATEMENT

Net turnover

The turnover increased by 3% compared to prior year as a result of increased variable fees, market data sales, agency income and cost recoveries. It is composed as follows:

IN THOUSAND EUROS					
	31/12/2017	31/12/2016	VARIANCE	IN%	
NET TURNOVER INCLUDING					
Variable fees	51 908	50 976	932	2%	
Service providing income	12 528	10 601	1928	18%	
Annual and technical membership fees	14 824	15 074	-250	-2%	
Entrance fees	348	476	-128	-27%	
TOTAL TURNOVER	79 608	77 126	2 482	3	

Capitalized production

This item represents the trading system and software development. The main increase is linked to the ETS 3.0 and PTV 2 releases carrying an overall amount of $K \in 2.867$.

Other operating expenses

This item contains mainly services of external providers and fees of external consultants (mainly relative to projects).

• Financial profit or loss

It is mainly impacted by the currency exchange difference (EUR-GBP). $\label{eq:currency} % \begin{subarray}{ll} \end{subarray} % \begin{subarra$

• Extraordinary profit or loss

Exceptional expenses, are recording risk provisions made to safeguard the compliance regarding potential changes within the regulatory framework.

Income tax

This item amounts to $K \in 6,248$ (compared to $K \in 8.953$ last year). This decrease is mainly linked to the reimbursement of the 3% tax on dividends ($K \in 1.978$).

EPEX SPOT SE

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To learn more about the European Power Exchange EPEX SPOT, our market results and our e-learning program, please visit our website.

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CONCEPTION, REALISATION & DESIGN LONSDALE

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