

# TOWARDS A CONSUMER- CENTRIC SYSTEM

UNLOCKING NEW ENERGY SERVICES FOR CONSUMERS  
THANKS TO A REAL-TIME COMMUNICATION LAYER, AN  
UPGRADED MARKET DESIGN AND NEW DIGITAL TOOLS

An Elia Group point of view





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# INVITATION TO SIGN UP

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Dear reader,

In November 2016, the European Commission presented the 'Clean Energy for All Europeans' proposals, a package of measures to provide a fair deal for consumers and to get society more involved in the energy system. The Commission stated that consumers should have a better choice of supply, access to reliable energy price comparison tools and the possibility to produce and sell their own electricity.

With the energy transition and the digitalisation of the sector underway, it is clear that consumers are calling for energy services that deliver more value and comfort and that this will become a driving force in itself soon. Until now, this trend has been very much underestimated by many market players. However, Elia Group believes we are on the verge of a new era where energy as a service will breakthrough dramatically.

With more and more flexible electricity assets in the system, such as heat pumps, boilers and electric vehicles, and meters that measure consumption every quarter of an hour, the hardware will be in place soon. Technologies to create intelligent appliances such as Internet of Things (IoT), Artificial Intelligence (AI) and cloud computing exist already. But the system to ensure that these assets and intelligence can be translated into high value energy services is not there yet.

*Elia Group believes we are on the verge of a new era where energy as a service will breakthrough dramatically.*

The evolution towards a consumer-centric energy system is not something society can wait for until it is happening. Especially as regulated players in the power sector, Elia and 50Hertz have a duty to anticipate and deliver a system that can bring new value to society. In addition, Elia Group believes this will be of great value for the economy of our country. Value which has the potential to further increase by export opportunities for an ecosystem of front running companies.

This Vision Paper aims to provide first insights and open the debate on the energy system of the future. As our sector requires multiple interactions between actors, Elia Group invites market parties to sign up and participate together in developing products that are fully responding to the needs of the end-users (households and industries).

This is not a blue sky promise. We will have a sandbox ready by 1 April 2019, where we try to ensure as many front running market parties as possible in the further development of current and new solutions for a consumer centric system. There is room for everyone in his specific role.

Together, we will learn what brings value to the consumer and get out of the sandbox to gradually scale up the new energy services towards industrialisation. The registration period runs until 12 January 2019.

Sign up, the future isn't waiting.

*We invite market parties to sign up and to participate in joint developments that are responding to the needs of society.*



## EXECUTIVE SUMMARY

### Why is it necessary to evolve into a consumer-centric system?

Until today, there is no direct link between consumers' behaviour in the lower voltage levels and the price signals of the wholesale market. The consumer hardly receives any incentive to respond to the needs of the system that copes with variable renewables and the increasing challenge to keep the balance between production and demand.

Consumers want to lower their energy bill, increase their comfort and benefit from the technological investments they made in solar panels, heat pump, boiler or (car) battery. If the system would allow energy service providers to deliver this in a simple way, substantial volumes of flexibility would start to participate in the market and this would in turn, increase the welfare of society.

*Digitalisation is a catalyst to bring the benefits of the energy transition to the consumer. It will enable market players to deliver the energy services that the consumer wants and the system operator to better run a low-carbon power system thanks to the increasing contribution from consumers' flexibility.*

### What is Elia Group's involvement?

Transmission system operators (TSOs) have a critical societal role, as they are responsible for the balance of the system and facilitating an effective electricity market. The European TSOs have to address a number of challenges to keep pace with the ongoing energy transition. These challenges are happening both on the horizontal (220kV-380kV for pan-European long-distance transport) and the vertical dimension (lower voltage levels mostly within a bidding zone) of the electricity system.

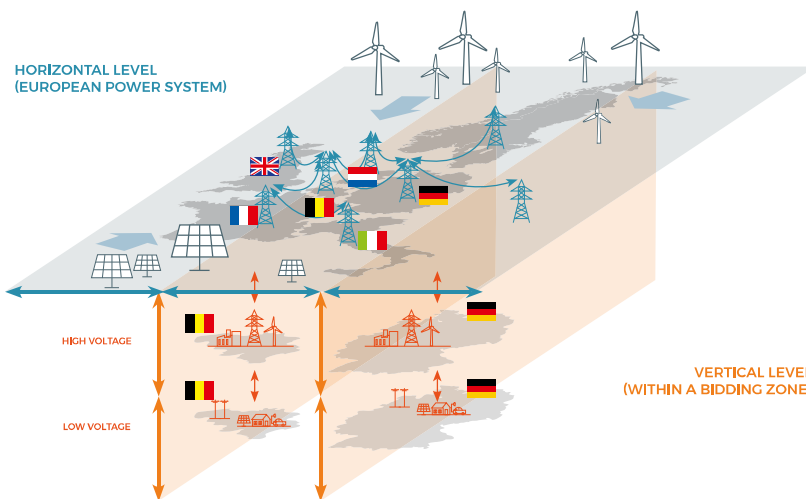
On the **horizontal dimension**, TSOs transport more and more bulk renewables like offshore wind and large solar volumes to the consumption centres. To feed the cities and to power the industries in our countries, we continue to build grid infrastructure that is needed for this changing reality. Simultaneously, we must improve the effectiveness of the use of the grid infrastructure and find solutions to address issues like congestions and loop flows. Consumers demand - rightfully - that the grid infrastructure they pay for is optimally used. The horizontal system challenges will be addressed in an Elia Group publication by november 2019.

The **vertical dimension** is even more important for unlocking the latent consumer demand for better energy services. This dimension is characterised by increasing decentralised generation and flexibility, and the high number of players to interact with; potentially millions of prosumers.

The important point on the vertical dimension is that the interests of system operators, commercial energy players and consumers are aligned. Engaging the new sources of flexibility in the market and the system will create benefits for all: consumers can increase comfort and lower their bill, commercial players can create value on new services and system operators will benefit from behaviours more aligned with system needs.

*Consumers demand - rightfully - that the grid infrastructure they pay for is optimally used.*

FIG. 1: DIFFERENT CHALLENGES TO BE SOLVED BOTH ON A HORIZONTAL AND VERTICAL DIMENSION



## OUR VISION: ENABLE THE CONSUMER-AT-THE-CENTER

New digital technologies like Big Data, Cloud Computing, Artificial Intelligence and Blockchain are now a new reality for our sector. With the expected rollout of digital meters and the cost reduction of power technologies (solar PV, electric boiler, electric vehicle, batteries, etc.), the hardware part on the consumer-side will be there soon.

Therefore, the digital meter becomes the gateway between the local intelligence on the consumer-side and the power system.

To enable the paradigm shift from generation-follows-consumption towards demand-follows-generation, Elia Group identified three building blocks: (1) a real-time communication layer, (2) an upgraded market design and (3) new digital tools.

In our vision, the commercial sector can only start delivering energy as a service at scale, if the three building blocks are put in place. As a company of regulated TSOs, Elia Group believes that it is our societal duty to work together with all market parties to make sure the necessary building blocks are set up as soon as possible.

### Key elements to make the consumer-centric system happen



#### BUILDING BLOCK 1



##### A REAL-TIME COMMUNICATION LAYER

The real-time communication layer will route the data from millions of digital meters and connected assets in real time to all preapproved parties (TSOs, DSOs, energy service providers, clearing houses, etc.). The data is owned by the end-user and the communication layer will not store the data. Each party will receive the consumption/injection data it needs for its activity in real-time and handle it in compliance with legislation such as GDPR. There is no party that can lock in, withhold or delay raw data from flowing in real-time to preapproved parties.

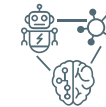
#### BUILDING BLOCK 2



##### AN UPGRADED MARKET DESIGN

An upgraded market design is needed to link consumer behaviour directly to close-to-real-time market signals, possibly corrected for system constraints like congestions. This would allow commercial players to develop service offers that create value for consumers and profits for themselves. The market-based nature of these services would then ensure that these services support the functioning of the system.

#### BUILDING BLOCK 3



##### NEW DIGITAL TOOLS

New digital tools will allow the future system to operate at its full potential. On the commercial side, new digital tools would allow service providers to easily integrate market, system, connectivity and other aspects in their products and increase time to market and evolution. On the regulated side, these tools would help system operators (TSO and DSO) to fulfil their specific system role.

*Elia Group is convinced that the evolution towards a consumer-centric energy system will bring value to all market parties and our economy. Our partners would become frontrunners in a new ecosystem with export potential.*





## CONTEXT: ENERGY TRANSITION MEETS DIGITAL REVOLUTION

### Decarbonisation is driving the ongoing energy transition

Europe is committed to decarbonise its society, with a target of at least an 80% reduction in greenhouse gas emissions by 2050 (compared to 1990 levels). On its way to achieving this, Europe aims to reduce its greenhouse gas emissions by at least 40% by 2030.

Achieving such a long-term goal for the energy sector will require at the same time:

- **INCREASING** the energy efficiency in industries, buildings and households;
- **ELECTRIFYING** energy-intensive sectors, such as transportation through the use of electric vehicles, or heat and cooling through the use of heat pumps;
- **DECARBONISING** the power supply due to increasing amounts of renewables in the energy mix.

Particularly in the electricity sector, the transition is characterised by the deployment of increasing, variable renewables, more decentralised production and further electrification, and increased supranational coordination with further European market integration.

Different studies assessing the journey to 2050 show that to achieve the long-term target, a mix of diverse technologies is needed. We can cite for instance the Elia study 'Electricity

Scenarios for Belgium towards 2050<sup>1</sup> and the Deutsche Energie-Agentur (dena) study 'Integrated Energy Transition'<sup>2</sup> for Germany. Moreover, all scenarios towards 2050 show an increase in decentralised generation and electrification compared to today's levels. Steep decrease in costs of power technology (e.g. solar PV, electric vehicles, batteries) will enable consumers to evolve from passive into active players in the future power system.

*Succeeding in the energy transition means that consumers - both industries and households - enjoy the benefits of having clean, competitive and secure electricity.*

Delivering the above-mentioned benefits requires the acceleration of the European integration of national power systems and the urgent construction of the required electricity infrastructure<sup>3</sup>. However, the increasing complexity of the resulting system will require a new way of managing it.



### The digital revolution is already here

In recent years, we have seen the emergence of new technologies that are contributing to the fast-paced digitalisation of our society. They allow new capabilities for improving the gathering, transfer, processing and visualisation of data, as well as automating decisions and actions.

Some of these digital technologies include:

- **INTERNET OF THINGS (IOT):** consisting of physical things (industry assets, an electrical vehicle, a washing machine, etc.) connected together, allowing remote sensing and control;
- **CLOUD COMPUTING:** sharing pools of computational resources for data processing, storage and other services, facilitating the massive treatment of data in a short time;
- **BIG DATA:** large amounts of data requiring special technology for collection, communication and analysis. Characterised by high-volume, high-velocity and a wide variety of information;

- **ARTIFICIAL INTELLIGENCE (AI):** machine-based simulation of cognitive functions like learning and problem solving requiring new ways of processing information.
- **BLOCKCHAIN:** a distributed database technology, capable of recording and providing secure transactions without the need of a centralised, trusted authority.

The digital revolution will make data platforms and information systems the most critical elements in achieving the secure and efficient functioning of an increasingly complex system.

For instance decentralised technologies like Blockchain, might furthermore transform the way metering and other data are stored and used. Artificial Intelligence might change the way we look at the balance between supply and demand, and help us gather new insights to enable us to better manage the future system.

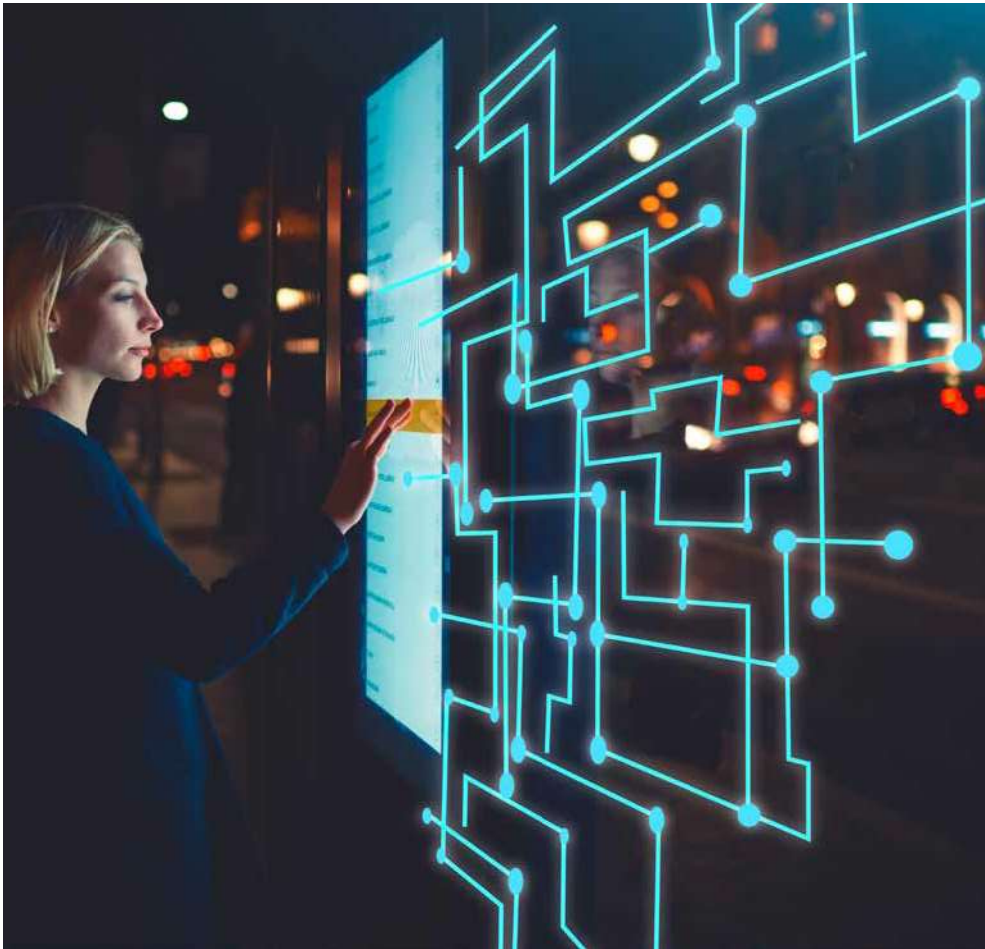


*Digital technologies will help to bridge the gap between the important role the prosumers have to play and their natural disinterest in the intricacies of the energy system. Automation is therefore a prerequisite to put the consumer-at-the-center of the energy system.*

1. [www.elia.be/-/media/files/Elia/About-Elia/Studies/2017/11/4\\_EUA\\_4584\\_AdequacyScenario.pdf](http://www.elia.be/-/media/files/Elia/About-Elia/Studies/2017/11/4_EUA_4584_AdequacyScenario.pdf)

2. <https://www.dena.de/en/newsroom/meldungen/dena-study-integrated-energy-transition-germany-needs-a-clear-2050-climate-target/>

3. Renewables and thermal plants, transmission and distribution infrastructure, interconnections, etc.



## THE CONSUMER-AT-THE-CENTER: A WIN-WIN FOR THE CONSUMER AND THE SYSTEM

*Engaging new sources of flexibility in the market and the system will create benefits for all: consumers can increase comfort and lower their bill, commercial players can create value on new services and system operators will benefit from system friendly behaviours.*



### Society wants consumer-at-the-center as soon as possible

As stressed by the European Commission in its communication "Clean Energy for all Europeans", Europe sees consumers as active and central players on the energy markets of the future so they can fully benefit from the energy transition.

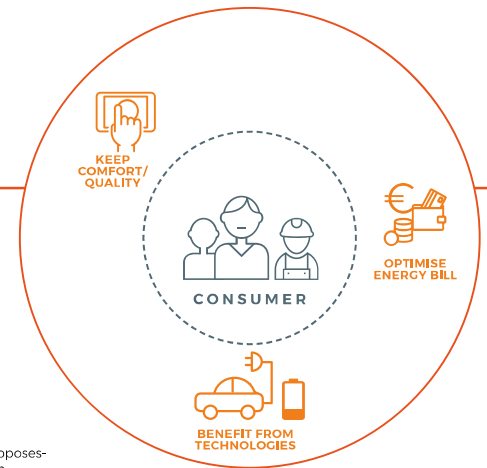
The consumer-at-the-center means consumers not only benefiting from clean, competitive and secure electricity. It also means free choice of when to produce, consume, store and sell their electricity.

Moreover, the expected sharp reduction in cost of power technologies (solar PV, batteries, electric vehicles) together

with digitalisation at the hands of consumers (digital meters, local intelligence) will make energy more than simple kilowatt-hours: energy becomes a service<sup>4</sup>.

This means consumers requiring services to allow them to optimise their energy bill, keep the comfort at home, and to have the ability to benefit from the technological investments they made. Therefore, the "consumer-at-the-center" also means providing consumers with a vast offer of competitive energy services that are tailored to their needs.

FIG. 2:  
"ENERGY AS A SERVICE" TO  
ADDRESS CONSUMER'S NEEDS



4. <https://ec.europa.eu/energy/en/news/commission-proposes-new-rules-consumer-centred-clean-energy-transition>  
5. Energy as a Service or Eaas





### A more complex system to manage

In a future, decarbonised and digital world, managing the power system becomes increasingly complex. Not only will electricity generation become weather-dependent, it will also be produced by millions of assets connected everywhere in the grid. Power flows become more volatile across the entire grid, with variable renewable capacities online that far exceed the peak loads in today's system.

The increasing fragmentation of the sector, characterised by more decentralised generation, and the increasing number of players to interact with (potentially millions of "prosumers") makes the system more complex to run.

Both transmission and distribution system operators will need more flexibility: transmission system operators to keep the system in balance and distribution system operators to manage congestions and voltage issues in their grids. Such flexibility needs to come from different sources, in particular from decentral resources and consumer-side flexibility given the expected decentralisation and electrification.

*The challenge is to manage a more fragmented system while incentivising consumers to help us keep the lights on by getting access to market-based price signals.*

### The paradigm shift towards 'demand follows generation'

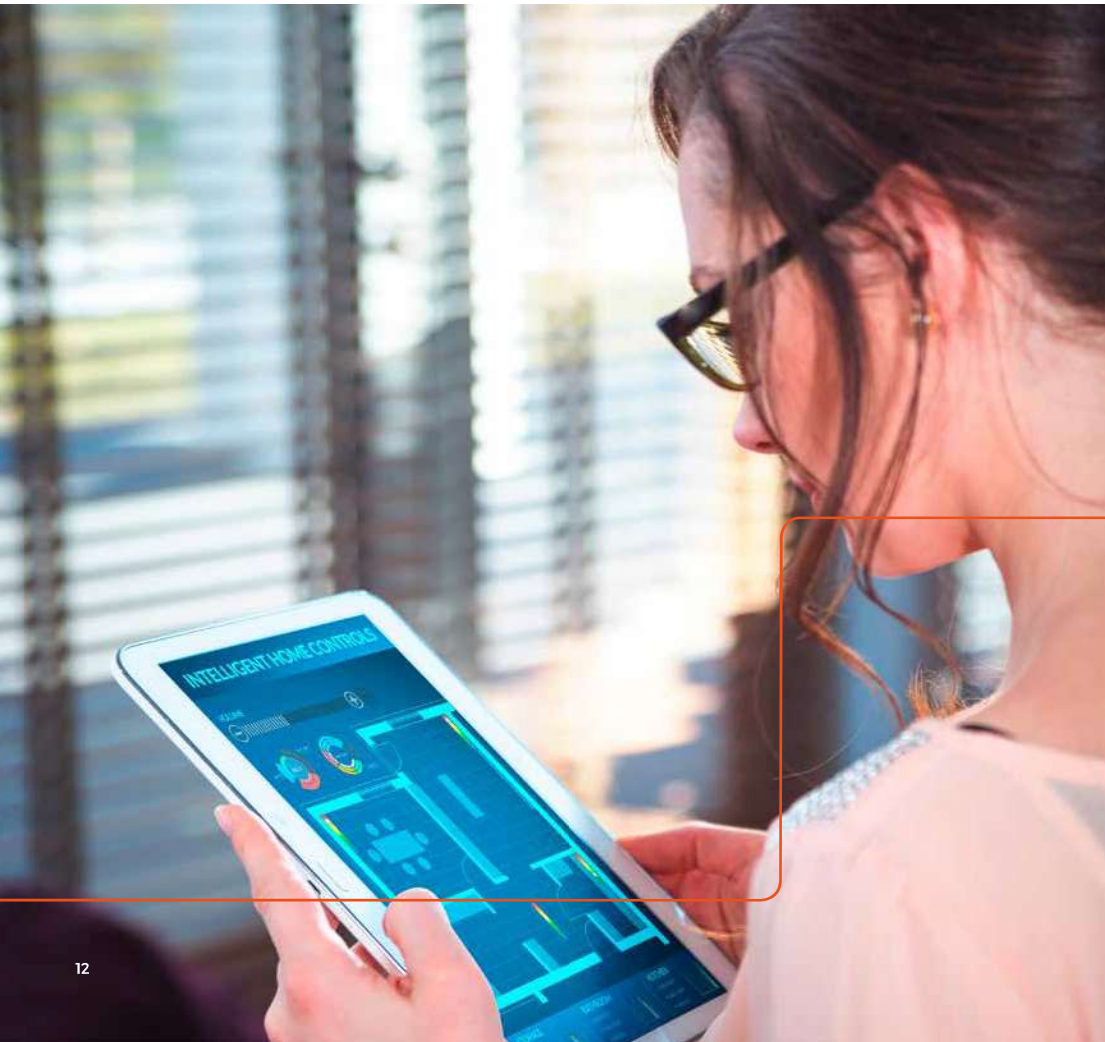
• **TODAY**, the centre of the system is still the large amount of centralised generation, with limited digitalisation and communication at low voltage levels. To balance the system, system operators mainly realise flexibility by changing fuel injection in thermal power plants in real time.

• **TOMORROW**, we expect more variable, renewable generation everywhere, relatively less centralised and controllable generation, more controllable electrical demand and widespread access to local intelligence by end-consumers. Flexibility to manage the system will be realised in a wider geographical and longer time dimension (long-distance transport in real-time and precursor/delay demand) rather than via thermal power plant adjustments in real time.

*Performing the paradigm shift towards demand follows generation means that consumers will require access to the market so they can monetise their flexibility. Incentivising consumers to contribute to system management will help keep the system secure and affordable for the whole of society.*



# OUR VISION: ENABLING CONSUMER-AT-THE-CENTER FOR A BETTER SYSTEM



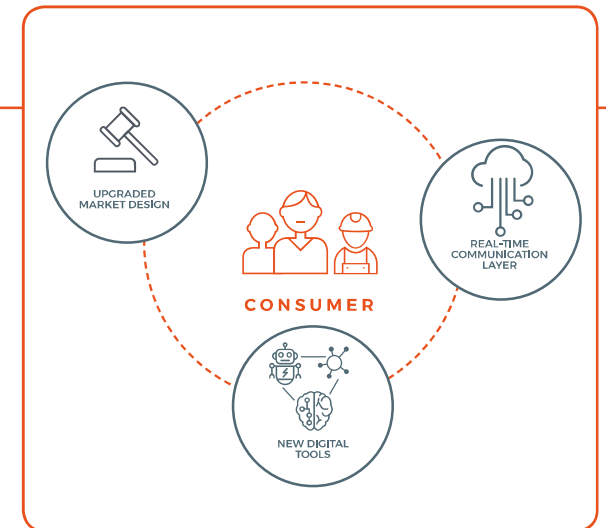
In order to deliver the energy services the consumer wants, we believe that the sector needs to put a seamless system in place that gives consumers access to a vast offer of services powered by low-carbon resources, while keeping the system affordable and secure.

We believe that once the rollout of digital meters happens, together with affordable power technologies (solar PV, electric boilers, electric vehicles, batteries, etc.), the consumer will have the necessary "hardware" to start being at the centre.

The digital meter will become the gateway between local intelligence on the consumer-side and the power system. A low-barrier communication layer will connect the local intelligence - through the digital meter - with competitive energy services and system applications. This communication layer allows consumers to have access to market-based price signals and hence, to become active players in the future power system.

## Building blocks

Three building blocks need to make the consumer-centric system happen:



*As with other technological evolutions, the moment consumers realise the benefits of new technologies, they want more out of it. It is therefore necessary that the sector delivers the required system as soon as possible, but also as open as possible.*



## Building blocks to enable the consumer-centric system

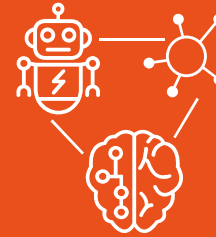


### REAL-TIME COMMUNICATION LAYER

We believe we should provide the market with a real-time communication layer that is unique, open and highly secure.

- The real-time communication layer will route the data from the digital meter in real-time to all preapproved parties (TSOs, DSOs, energy service providers, clearing houses, etc.).
- The data is owned by the end-user and the communication layer will not store the data.
- Each party will receive the consumption/injection data it needs for its activity in real-time and handle it in compliance with legislation such as GDPR.
- There is no party that can lock in, withhold or delay raw data from flowing in real-time to preapproved parties.

This real-time communication layer will enable the delivery of a vast choice of energy services. It will also allow system operators to use the real-time data from digital meters to develop the applications to better manage the system.



### NEW DIGITAL TOOLS

We need new tools, leveraging on new digital technologies (such as Blockchain or Artificial Intelligence) in order to help manage a more complex system with more bidirectional flows between the transmission and distribution grid, and to support the delivery of competitive energy services.

- For system operators, such tools will exploit the full potential of existing and new power technologies by bringing more capabilities for measuring, analysing, and controlling the different elements of the vertical power system in near real-time: more precise forecasting of decentral production and user behaviour, forecasting of system imbalances, automating processes to efficiently integrate consumer flexibility, detection and mitigation of congestions and voltage issues, etc.
- Market participants will also require new tools in order to better balance their portfolios, support the offer of energy services to consumers and system operators, further automate the control and billing of their services, etc.



### UPGRADED MARKET DESIGN

We need to upgrade the market by making it accessible to all actors and progressively accessible to all consumers: not only large industrial consumers but also small & medium enterprises and households.

- By giving consumers access to market-based signals, consumers will get the choice to optimise their own resources (production and storage, and flexible use of electrical devices) and monetise their flexibility depending on the state of the power system. For instance, consumers will be incentivised to store the excess electricity when there are abundant renewables or congestions in the grid. It can also mean they can make the choice of injecting more electricity from their local production to help balance the system when there is excess demand elsewhere.
- This will require a market that operates closer to real-time on European level to optimally integrate renewable production and demand flexibility, and maximise the flexible use from all type of decentral resources in order to help system management.


Upgrading the market design will also enable market players to develop new business models and services for consumers and system operators alike.



# WALK THE TALK: OVERVIEW OF ONGOING INITIATIVES

To enable the central role of the consumer in the future power system, we are putting in place and testing a real-time communication platform, reflecting on new options and approaches to open the market to all actors & consumers, and testing new digital tools to help us better run the system.

## Consumer-centric use cases on the IO.Energy




**OBJECTIVE**


Ensure the exchange between all actors (including consumers) of real time information to enable designing future energy services the consumers seeks for.

**ONGOING ACTIONS**

A first use case is currently being tested, coupling end consumers to a real-time energy price (accounting for the status of the grid) in order to assess if consumer can make value in real time of their flexibility. The use case involves home batteries, heat-pumps, EV chargers and cold stores totaling 500 kW and is tested on the first release of the IO.Energy platform.

**ECOSYSTEM**





**SHORT DESCRIPTION**


As a real-time communication platform, the IO.Energy meets the high standards of the electricity sector while being an open and low entry door for consumer to benefit from their data and flexibility, an environment for energy services providers to build new energy applications and for grid operators to find new flexibility for their increasing needs.

The IO.Energy is use case agnostic, but the value it enables comes from the applications running on it.

**TIMELINE**

Outcomes from the first use cases are expected by beginning of 2019, in view of expanding the ecosystem to more actors in the course of the year.

## WindNODE




**OBJECTIVE**


Integrate large amounts of variable renewables so they can be securely brought to consumption centres

**ONGOING ACTIONS**

WindNODE is currently studying how decentral flexibility can be used in support of grids and systems. It is also developing flexibility processes for virtual power plants, in view of the subsequent development and operation of the flexibility platform.

**ECOSYSTEM OF > 70 PARTNERS, REPRESENTED BY THE STEERING GROUP**





**SHORT DESCRIPTION**


WindNODE is supported by the German Federal Ministry for Economic Affairs (BMWi) as a 'smart energy showcase' that aims at developing innovative digital solutions for the smart energy system of the future.

In WindNODE, 50Hertz together with DSOs in the 50Hertz grid area, develop an innovative flexibility platform to integrate decentralised flexibility options into the processes for grid congestion management. 50Hertz is the consortium's coordinator.

**TIMELINE**

Outcomes from reflections are expected for earlier Q2 2019.

## Enhanced system management through AI




**OBJECTIVE**

Enhancing the management of the power system by using tools based on Artificial Intelligence (AI)


**ONGOING ACTIONS**

Three demonstrations are being developed automated decision-support, optimal use of assets, facilitate prosumer integration.

**ECOSYSTEM**



+ other external companies according to tested use cases



**SHORT DESCRIPTION**


We aim at demonstrating the capabilities of AI, to support decisions that help to operate the system in an optimal way, e.g.:

- **Automated decision-support in control centres:** to support intra-day security assessment by proposing to the operator different possible remedial actions in view of better use of available resources (e.g. in case of congestions)
- **Making optimal use of our assets:** by improving the scheduling of programmed outages in the grid (starting year-ahead) using machine learning and advanced analytics.
- **Facilitating the prosumer integration in the market:** by testing which price signal needs to be sent in order to get the proper reaction from connected consumers as a function of the forecasted system imbalance.

**TIMELINE**

Initial results from the demonstrations will be available beginning 2019.

## Improve the Settlement of Flexibility with Blockchain




**OBJECTIVE**


Enabling safe and secure energy transaction & operation from decentral players by using Blockchain

**ONGOING ACTIONS**

The proof of concept (PoC) is currently running. After the development of contractual aspects, the performances of the proposed solutions will be tested during 3 months.

**ECOSYSTEM**





**SHORT DESCRIPTION**

This initiative aims at demonstrating the potential of Blockchain in the energy sector. For this, EWF (Energy Web Foundation) Blockchain technology will be used.

A first PoC with the objective to improve the "Settlement" of flexibility is ongoing. It aims testing how we can automate certain processes linked with the provision of non-contracted flexibility from load resources: registration, measurement & verification, and the financial settlement.

**TIMELINE**

Outcomes from the PoC will be available by end 2018.



## NEXT STEPS

This vision paper gives first insights. Many ideas already exist on how consumers could be brought to the centre of the energy system. But time for discussion has passed. Our sector is now starting to develop solutions that are bringing the most value to consumers and society.

As a next step, Elia Group wants to walk the talk and facilitate the development of an ecosystem that will deliver the products and services needed for a consumer-centric system. Market parties willing to embark on this journey have to sign up before **12 January 2019**.

To allow as many market parties as possible in the further development of current use cases and new ones, a sandbox will be ready by **1 April 2019**. We expect that by the **end of 2019**, first use cases will be positively assessed to be gradually scaled towards industrialisation.

Elia Group is convinced that such collaboration between regulated, commercial actors and regulators has at least the same value creation potential as the development of demand-side participation on the Belgian balancing markets. Such a pioneering move resulted in new businesses with export potential for the companies that were onboard at early stage.

A consumer-centric system is the logical next step in the interest of society. It triggers opportunities for a new ecosystem of front-runners to generate more services and comfort for consumers, as well as business opportunities for the commercial market and system stability for those operating it.

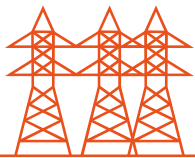
## CONCLUSIONS

Societal ambition to put the consumer-at-the-center of the future highly decarbonised, decentralised and digitalised power system means offering consumers access to a vast choice of competitive energy services that are powered by low-carbon, competitive and secure electricity.

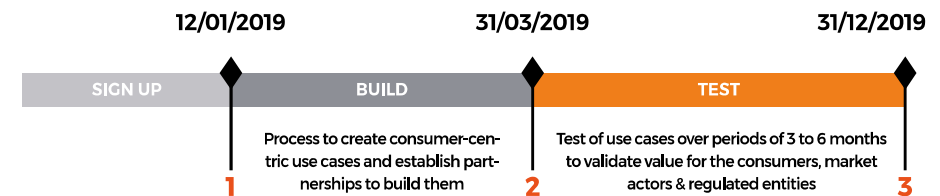
As a sector, we have a unique opportunity to proactively build the system that will address such an ambition as soon as possible, and that is as open as possible in order to foster innovation and competitiveness.

Elia Group is committed to achieve such a vision. This is why in collaboration with diverse regulated and market actors, we are already working on a series of concrete initiatives to make this happen.

For addressing the "vertical" system challenge, particularly in Belgium, we are developing and testing a low-barrier communication layer to enable real-time communication with consumers' digital meters, reflecting on new market arrangements so all actors and consumers can have access to market-based signals to help running the system, and testing new digital tools that will facilitate the central role of consumers in the future power system. We believe this is just the beginning.



## Timeline



- 1. SIGN UP DEADLINE:** register on Elia's website to start building together consumer centric use cases
- 2. START OF TEST PHASE:** test your use case in an environment of frontrunner companies
- 3. END OF TEST PHASE:** assessment of the value brought by the use case for possible scaling up



# THE ELIA GROUP

## Who?

### ONE OF EUROPE'S TOP 5 PLAYERS

The Elia Group is active in electricity transmission. With subsidiaries in Belgium (Elia) and north-east Germany (50Hertz), we operate 18,600 km of high-voltage connections that supply power to 30 million end users. As such, our Group is one of Europe's top 5. With a reliability level of 99.999%, we provide society with a robust power grid.



## How?

### THROUGH COOPERATION AND INNOVATION

We operate and develop our grid infrastructure in close collaboration with all stakeholders. We are highly focused on safety and our goal is zero

accidents. We are committed to innovation and continuously improve our operational systems. We develop new market products enabling new tech-

nologies and market players to access our grid. This is how we make the energy transition happen.

## What?

### OUR CORE TASKS

#### Operating the electricity system

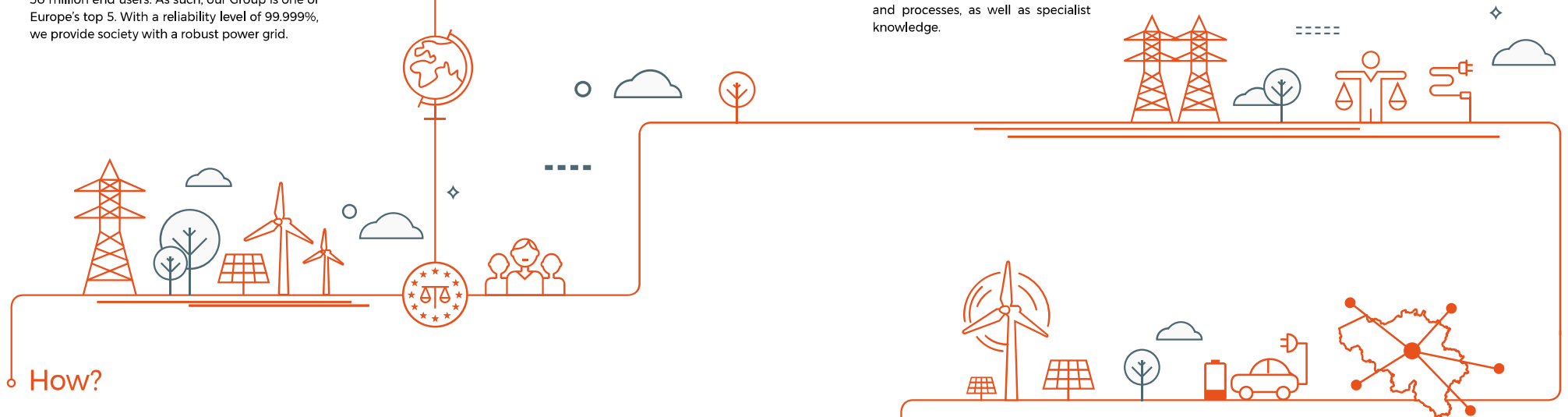
Supply and demand must be kept balanced at all times. Operating the electricity system is an increasingly complex task due to the sharp rise in renewable generation sources, the arrival of new players and technologies and the development of supranational coordination. To ensure a reliable supply and efficient operational management of the medium- and high-voltage grid, Elia and 50Hertz monitor the electricity system in real time. This requires sophisticated tools and processes, as well as specialist knowledge.

#### Facilitating the market

The Elia Group makes its infrastructure available to all market players in a transparent, non-discriminatory way. Elia develops services and mechanisms allowing the market to trade on different platforms, which promotes economic competitiveness and the wellbeing of all.

#### Managing the infrastructure

The Elia Group maintains and develops high-voltage equipment and infrastructure: lines, cables, transformers, and so on. The Group uses advanced technologies to modernise and extend its grid to enable it to integrate more renewables.



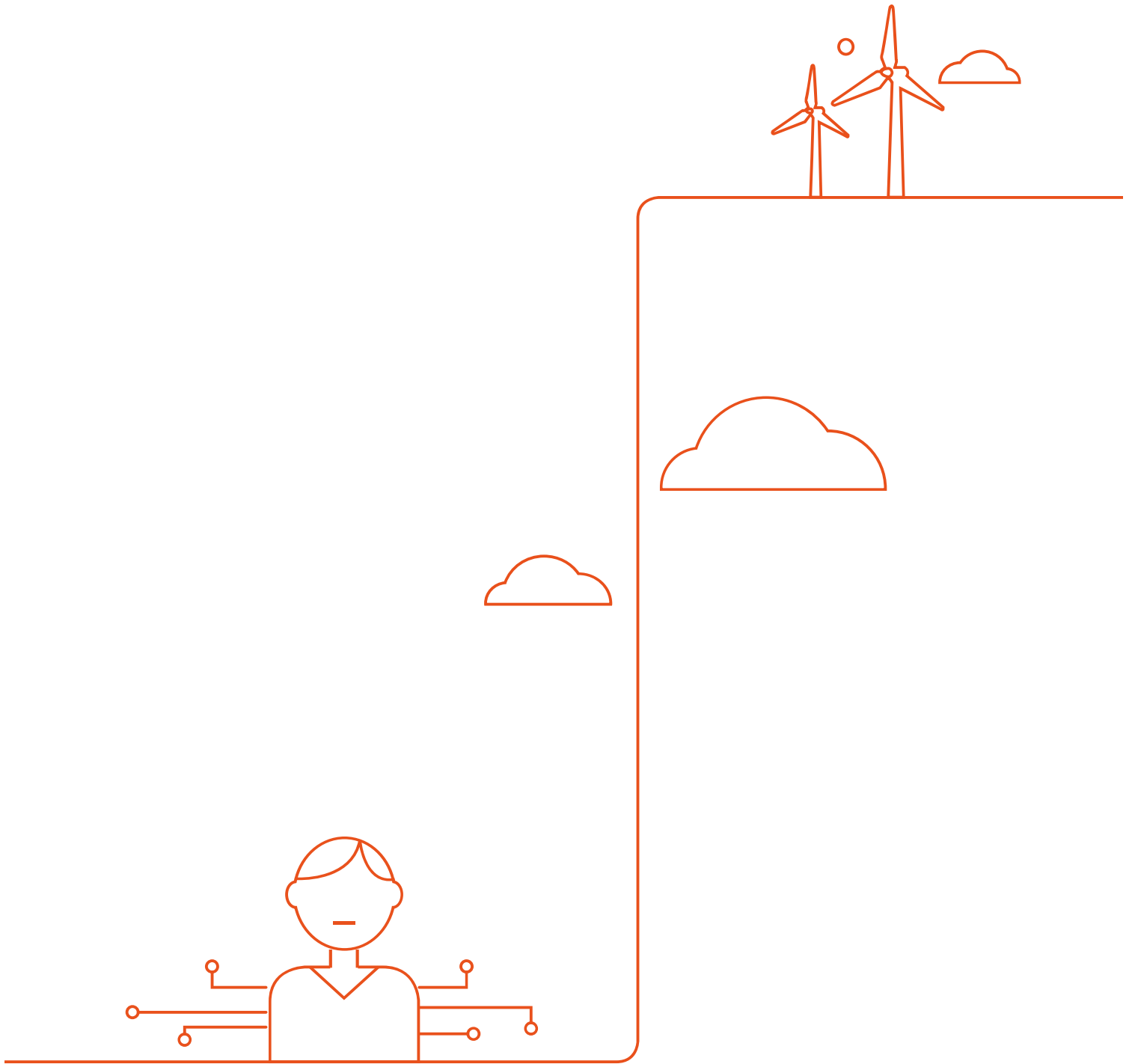
## Why?

### IN THE INTEREST OF SOCIETY

The power grid is a key pillar of the energy policy that supports our socio-economic prosperity. The Elia Group aspires to be a catalyst for a successful energy transition and con-

sequently, a reliable, sustainable and affordable energy system. By building interconnectors and integrating renewable energy generation, the Elia Group promotes both the inte-

gration of the European energy market and the decarbonisation of our society.



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