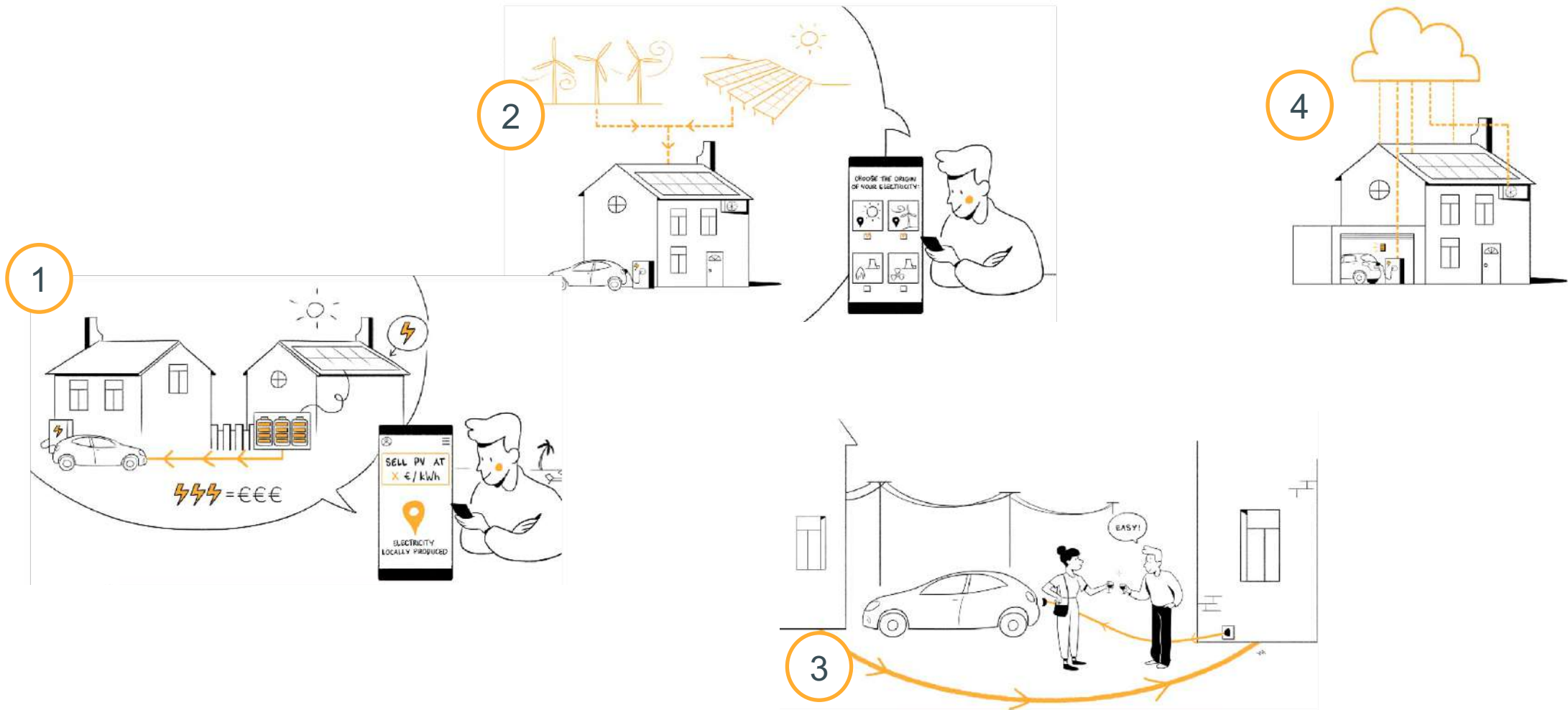


Unlocking distributed flexibility

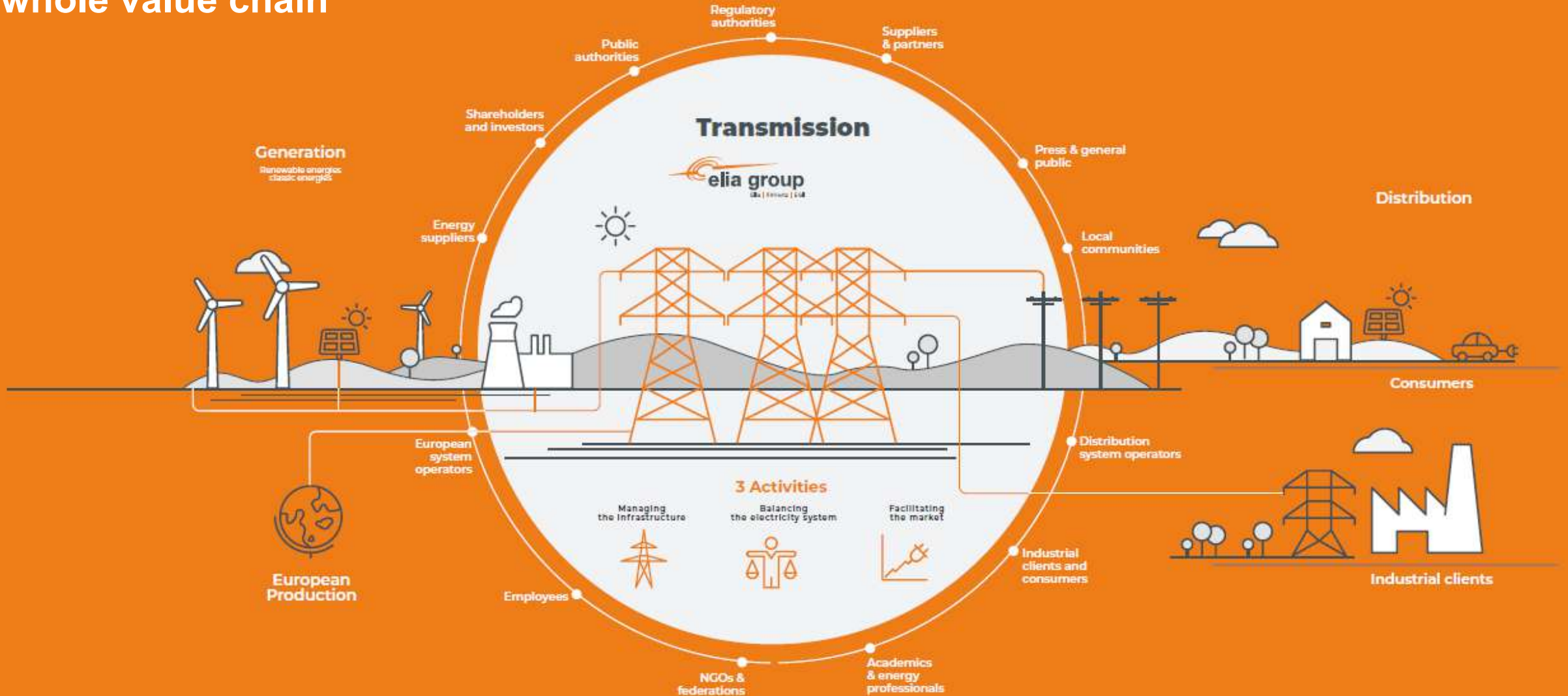
Elia's role in enabling demand side flexibility

21.06.2023 | Sebastiaan Coppenholle

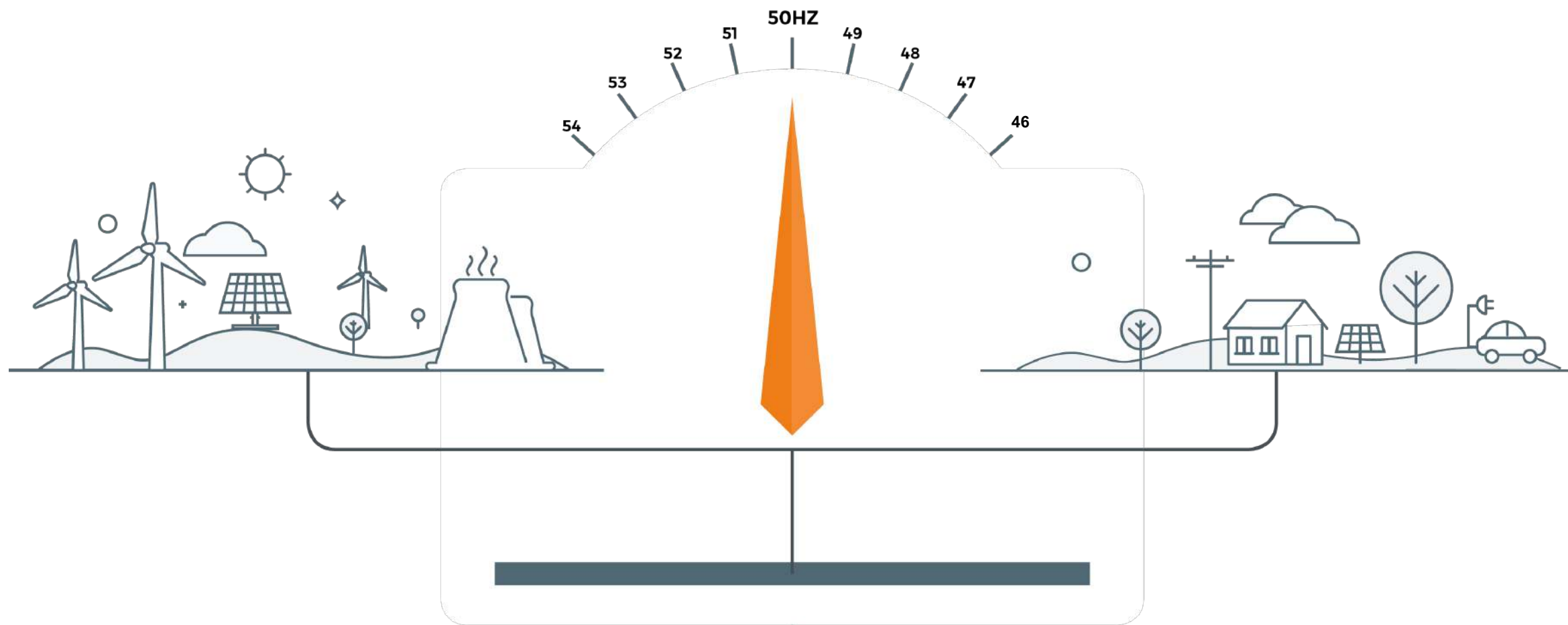
What should the future look like?



Elia group plays a key role in the energy system, connecting generation to distribution whilst taking into account different actors throughout the whole value chain

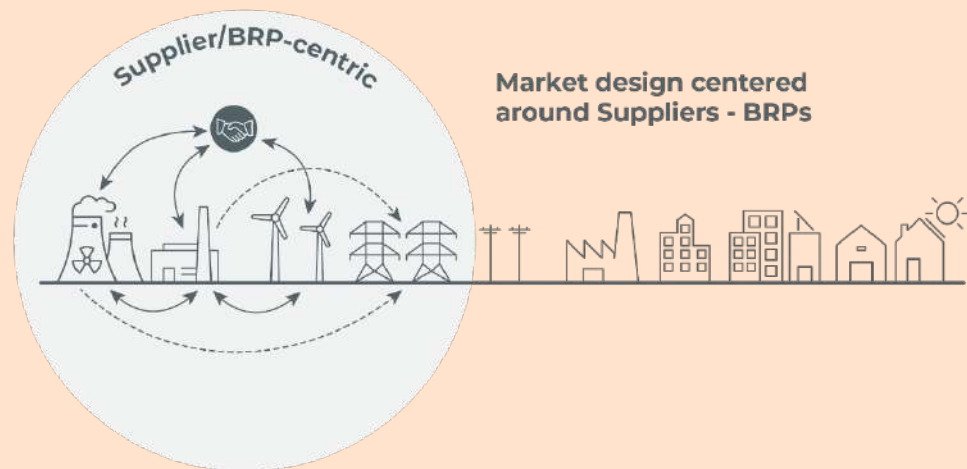


Balancing the electricity system has raised new challenges due to increases in renewable energy generation and electrification

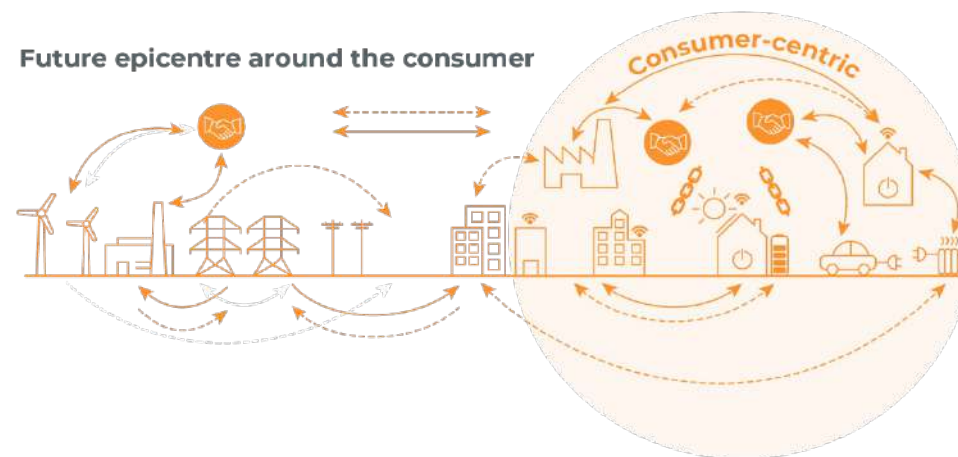


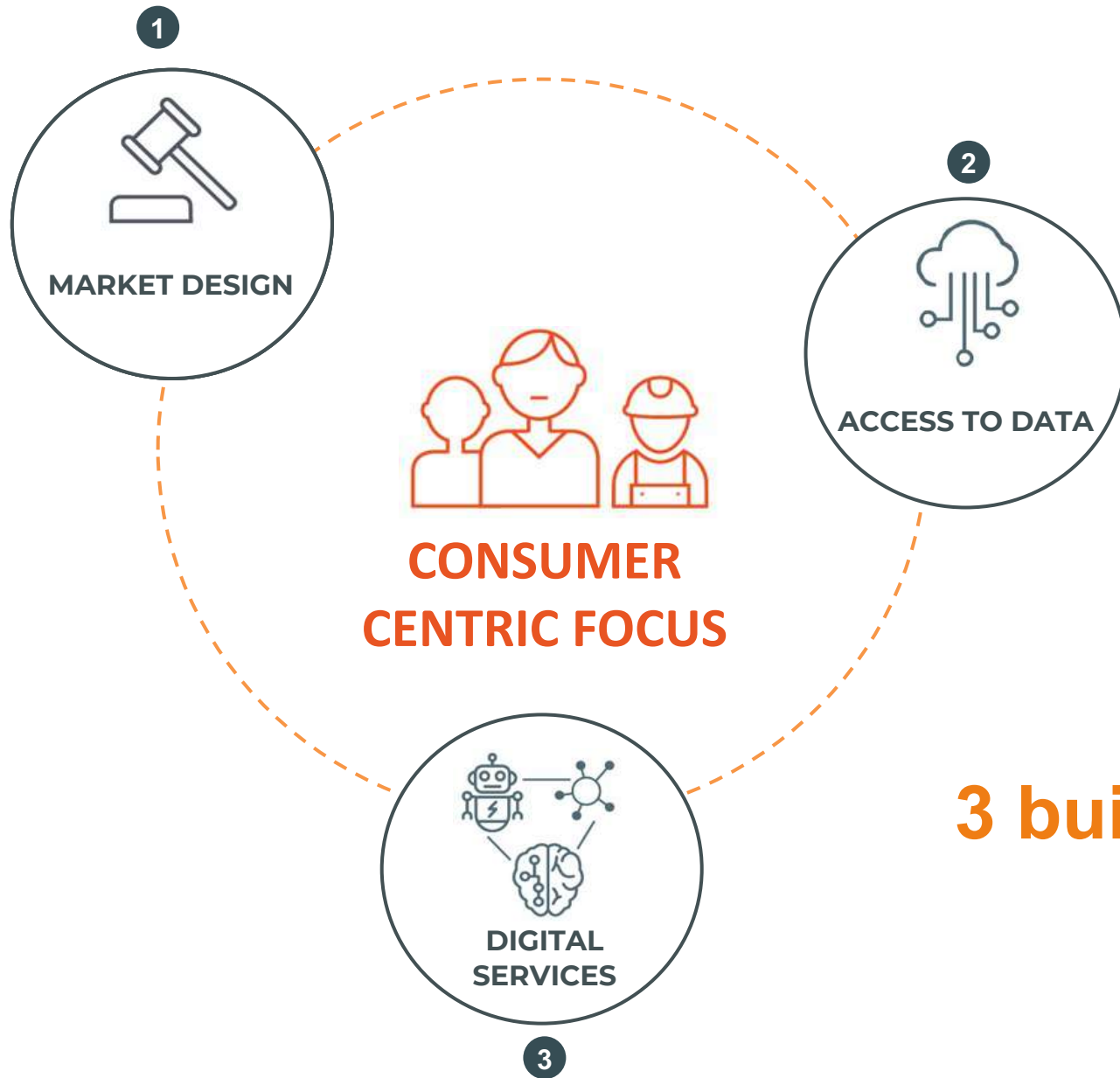
These new challenges require a paradigm shift of the current electricity system towards a more consumer centric approach

From generation following inflexible demand



To demand following intermittent generation





**3 building blocks to realize the
consumer-centric system**

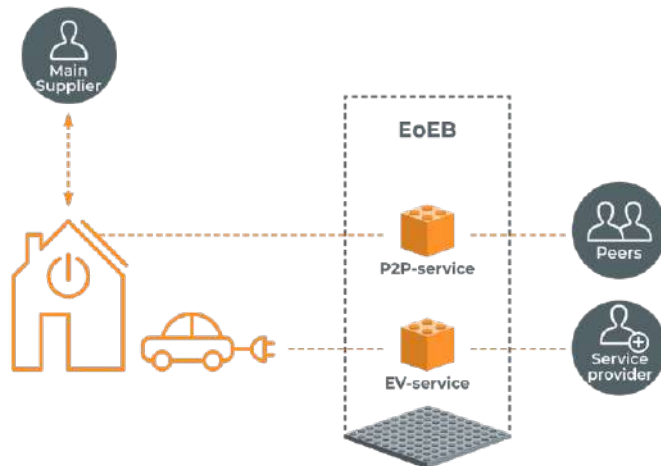
Elia Group is working on a new consumer centric market design which aims to enable consumer flexibility

Consumer-centric market design to unlock flexibility - two key features



Exchange of energy blocks

A decentralized exchange of energy blocks between consumers and many other parties, **on & behind the meter**



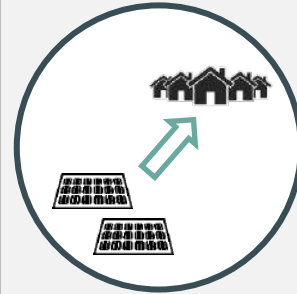
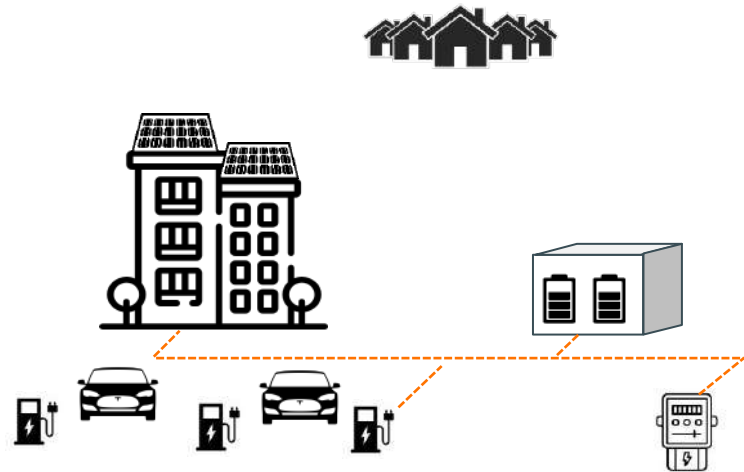
A real-time market price

to reveal the true **value of flexibility** to consumers



Facilitating the **development of additional flexibility** should come **together** with the development of a clear incentive, the **real-time price**

The building sector can deliver flexibility through an optimized use of their flexibility devices, optimizing their own cost structure



Valorization of your own renewable production

Sharing your solar energy between different access points or with other grid users (eg. residential area) through an energy community



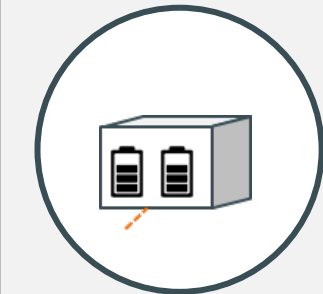
Peer-to-peer market

Valorization of your EV/HP in balancing services

Steer your EV/HP to help Elia balance the grid without impacting your own comfort



Balancing market (FCR, mFRR, aFRR)



Contract a dedicated supplier for your flex

e.g. keep your current supply contract for your baseload and optimize your flexible assets through a new supply contract sensitive to market prices



Wholesale market

Watts.happening creates awareness to industrials about flexibility options through a free and easy-to-use simulator

<https://www.wattshappening.be> | an  elia initiative



Starting point

“As industrial grid user, I have some flexibility with my assets and operations. What are my options? What is the value behind? What are concrete steps to take? ...”



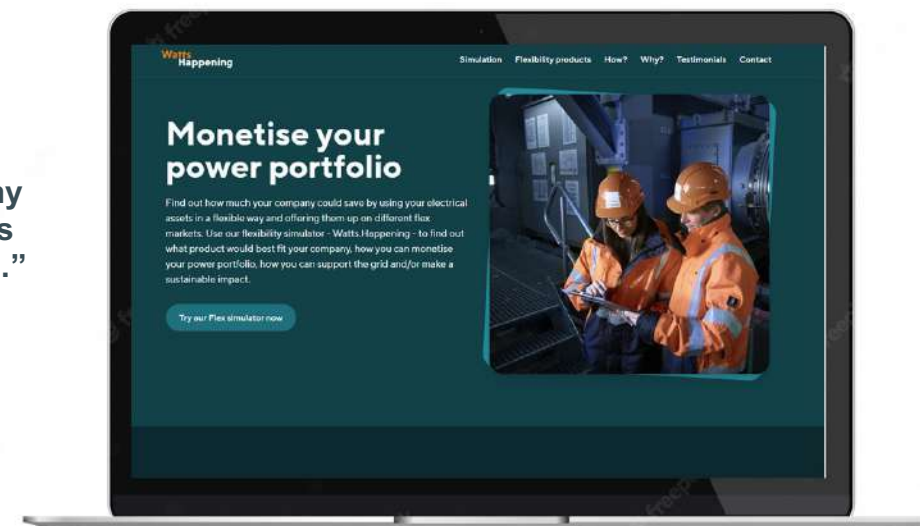
Watts.happening
service offering

Information

- Information on flexibility products
- Points of contact
- Testimonials of other similar companies

Simulation

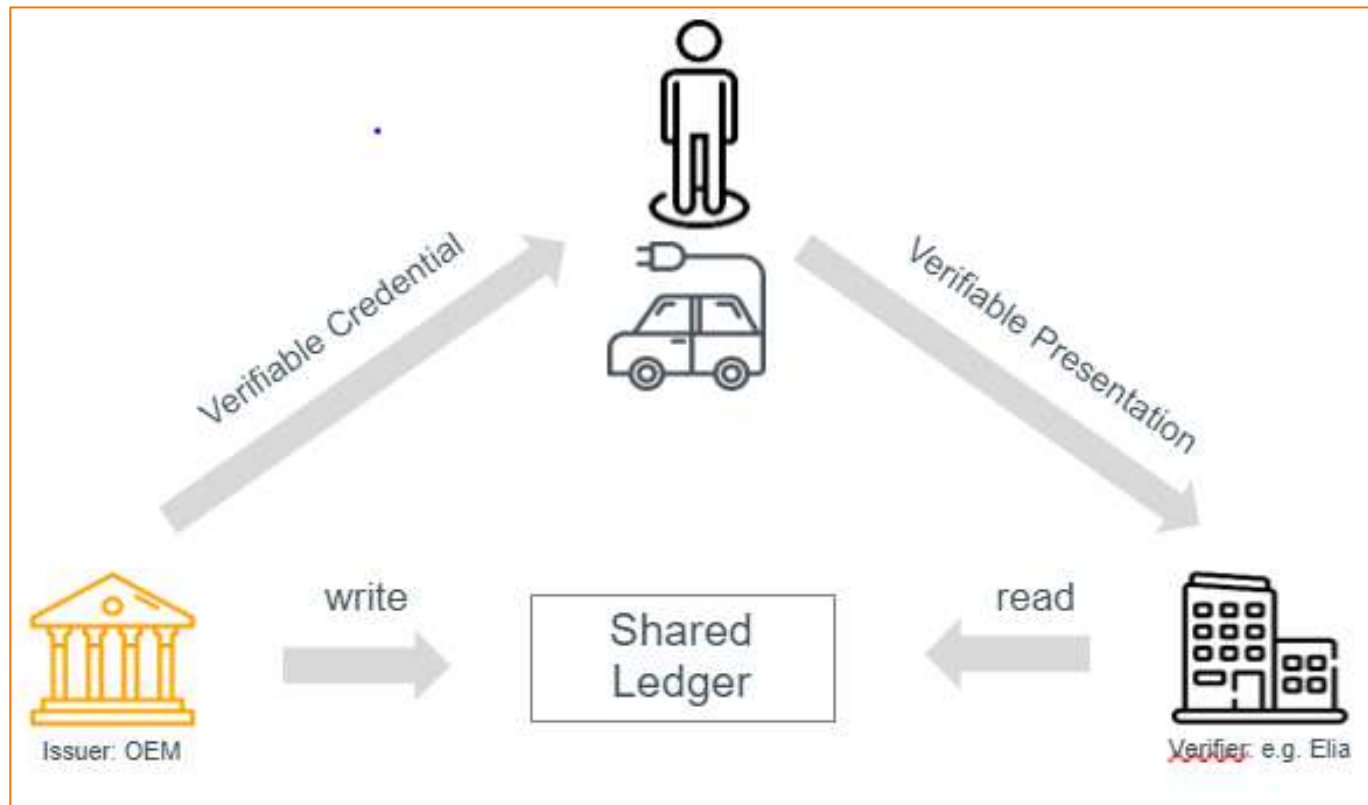
- Overview of the best flexibility product fit for your asset
- Estimation of potential financial revenues, in function of participation to flex products / markets



The aim behind Watts.happening is to create a win-win: proactively support grid users in reaching budget and sustainability goals, while at the same time unlocking flexibility to keep on balancing the grid

- 1 Select an asset and add your data
- 2 Run the simulation
- 3 Find out the best fit for your company
- 4 Discover next steps and get started

Self-Sovereign identities allow trusted interactions with low voltage assets, allowing new opportunities for DER's to participate in flexibility schemes.



The use-cases (as ran by Elia Group Innovation)

- Running **virtual balancing areas**
- **Pre-qualification** of assets for balancing market
- **Consent management**
- **Proof-of-delivery**
- **Coordination / Avoiding double spending**
- **One-to-one matching** of vehicle ID and telematics **in real time**

Thank you.

