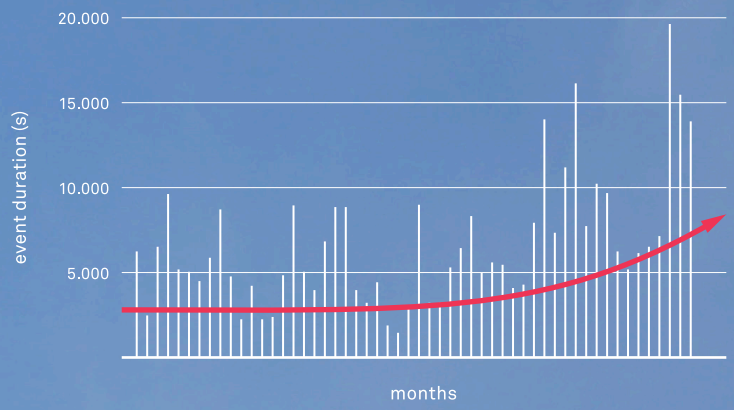
FutureFlow

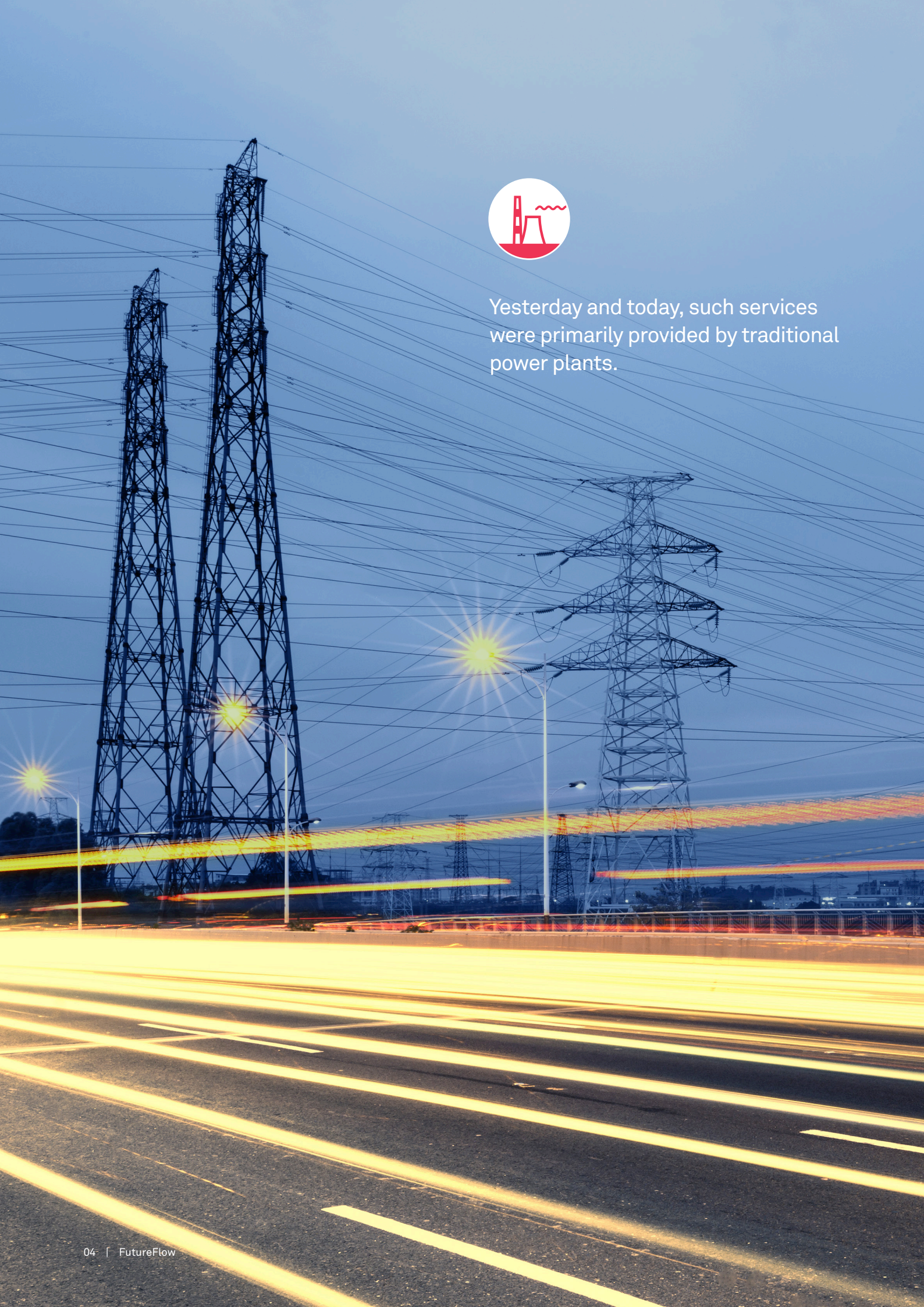
When TSO's,
Market Players,
and Prosumers
Join Forces

There are many changes going on in the power sector.

We are producing more and more electricity from renewable sources.



By closing thermal power plants, we will lack flexibility services for controlling the balance on the network.

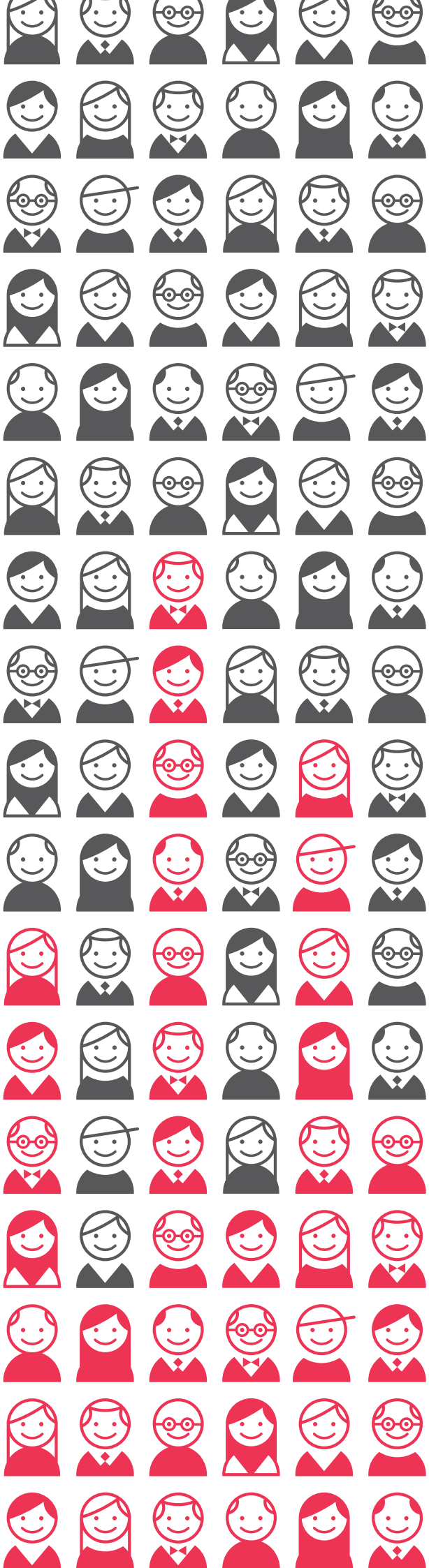


Yesterday and today, such services were primarily provided by traditional power plants.

Prosumers will largely have to fill in their role in the future.

They are becoming the guardians of the Power System.

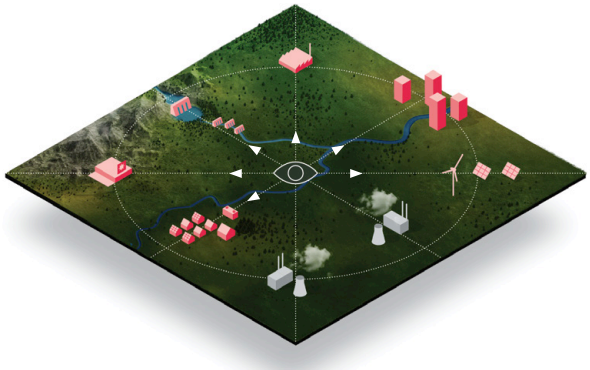
By working together, the four TSOs, with the help of more than 60 consumers and 90 technical units – devices, machines, processes etc. – managed to secure 50 MW of flexibility using various technologies, while also achieving fully automated real-time power control.



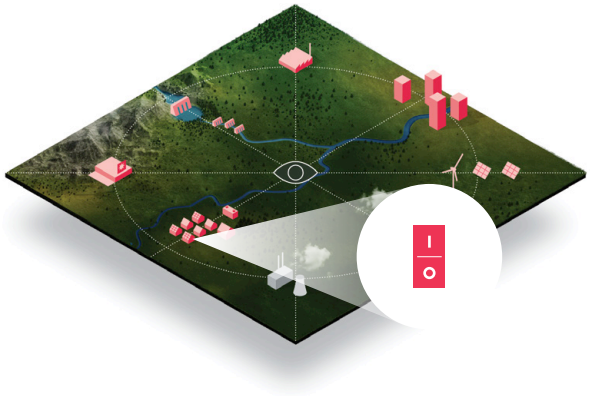
Consumers are the heart of the project.

They are able, in a very short time, to increase or decrease their load and can become a new, environmentally friendly source of flexibility.

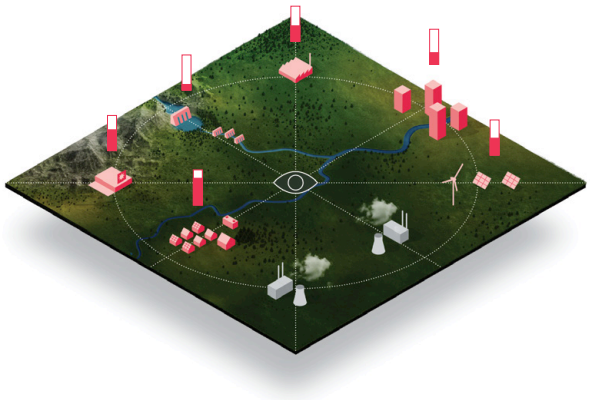
By developing adequate business models, prosumers will get an opportunity to sell their flexibility to the most valuable market, reducing their electricity bills.



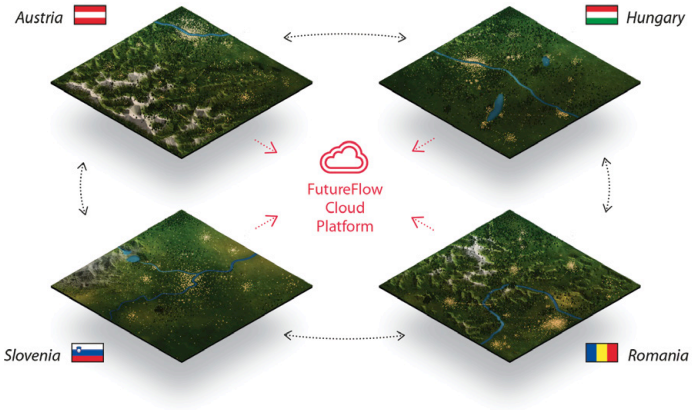
When one of the National Electricity systems gets into an imbalanced situation or line overloading, information is automatically passed to the Consumers and Renewable Energy Sources in its and other systems.



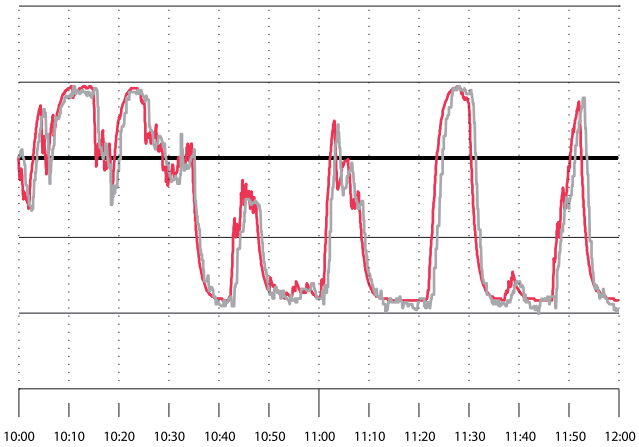
They respond to this request by switching their electrical devices on or off.



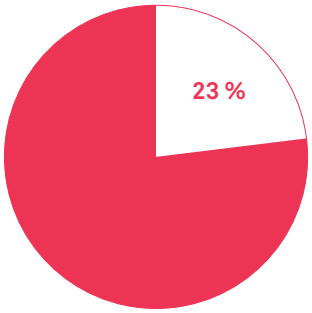
The FutureFlow project has developed a fully automated service that is able to continuously drive Consumers and Renewables up and down based on the needs of the Power System.



Real prosumers from Austria, Hungary, Romania and Slovenia took part in our cross-border pilot.



With their 50 MW of flexible power, they demonstrated that prosumers can deliver high quality and flexibility services to the TSOs.



FutureFlow shows the potential to save 23 % of regulating energy by the integration of flexibility markets in these 4 countries.

A further shift of the fossil-fuel technology to DR & DG represents a significant step towards our independence from fossil fuels and the achievement of challenging CO_2 goals.

Key numbers

96 **prosumers**
(large RES, small RES, CHP generation, industrial generation, industrial load)

from

4 **countries**
(Austria, Hungary, Romania and Slovenia) with overall reserve power

exceeding

50 **MW**
took part in real-time cross-border pilot tests

60%

potential of cost reduction for automatic Frequency Restoration Reserve among four countries

57%

potential of cost reduction for redispatching based on Power flow decomposition

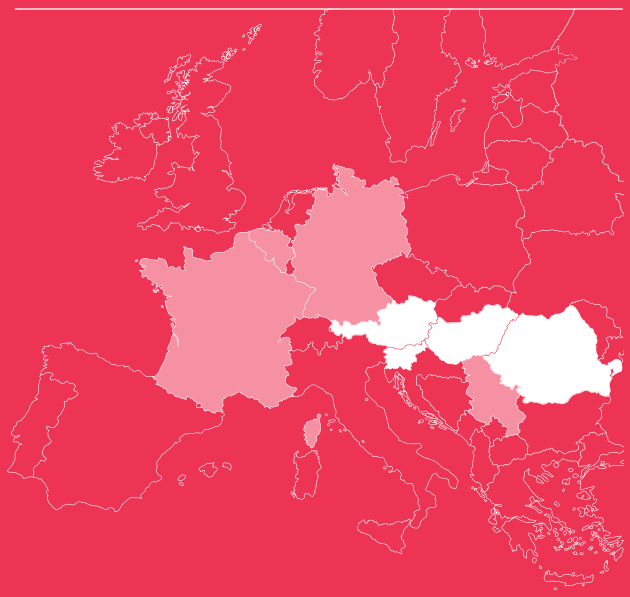
4

platforms
developed and tested in real-time environment

The consortium, that encompasses 12 partners from 8 EU member states, is led by ELES, Slovenian transmission system operator.

The consortium has all key competences along the value chain of the balancing markets:

ancillary services control, demand response, distributed generation, system and AGC modelling and real test process.



Austria	Austrian Power Grid AG CyberGRID GmbH
Slovenia	ELES Ltd. Elektroinstitut Milan Vidmar Elektro Energija GEN-I d.o.o.
Serbia	Electricity Coordinating Center (EKC) Ltd.
Romania	Transelectrica Teletrans
Hungary	MAVIR ZRt.
Germany	SAP
Belgium	3E
France	GEMALTO SA

Key facts about the project

HORIZON 2020, Call	H2020-LCE-2015-3 Advanced architectures and tools for pan-European markets for ancillary services and balancing
Project title:	Designing eTrading Solutions for Electricity Balancing and Redispatching in Europe
Project acronym:	FutureFlow
Grant Agreement No.:	691777
Duration:	4 years (1.1.2016 - 31.12.2019)
Coordinator:	ELES d. o. o., Slovenia
Consortium:	12 partners from 8 countries
General objective:	To design and pilot test for access of advanced consumers and distributed generators to a Regional Platform for balancing and redispatching services
Maximum grant amount:	12,9 mio EUR

Visit our web site www.futureflow.eu,
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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 691777