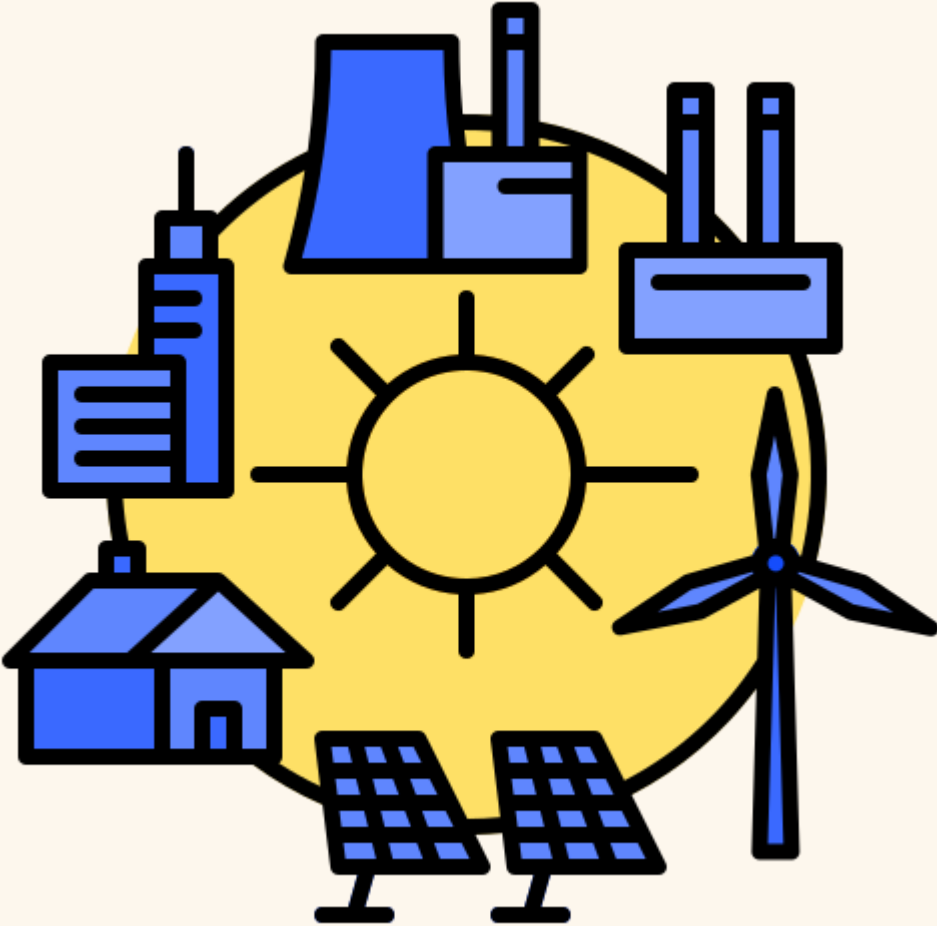


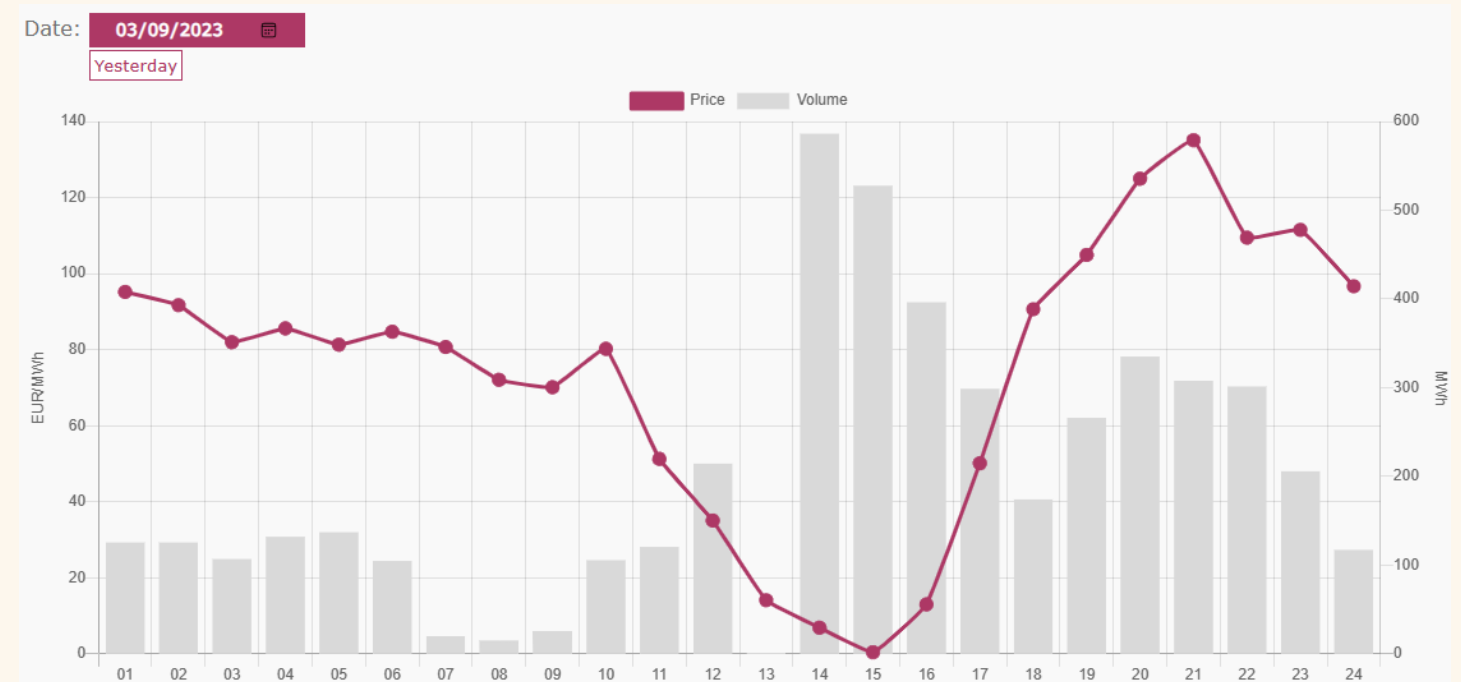
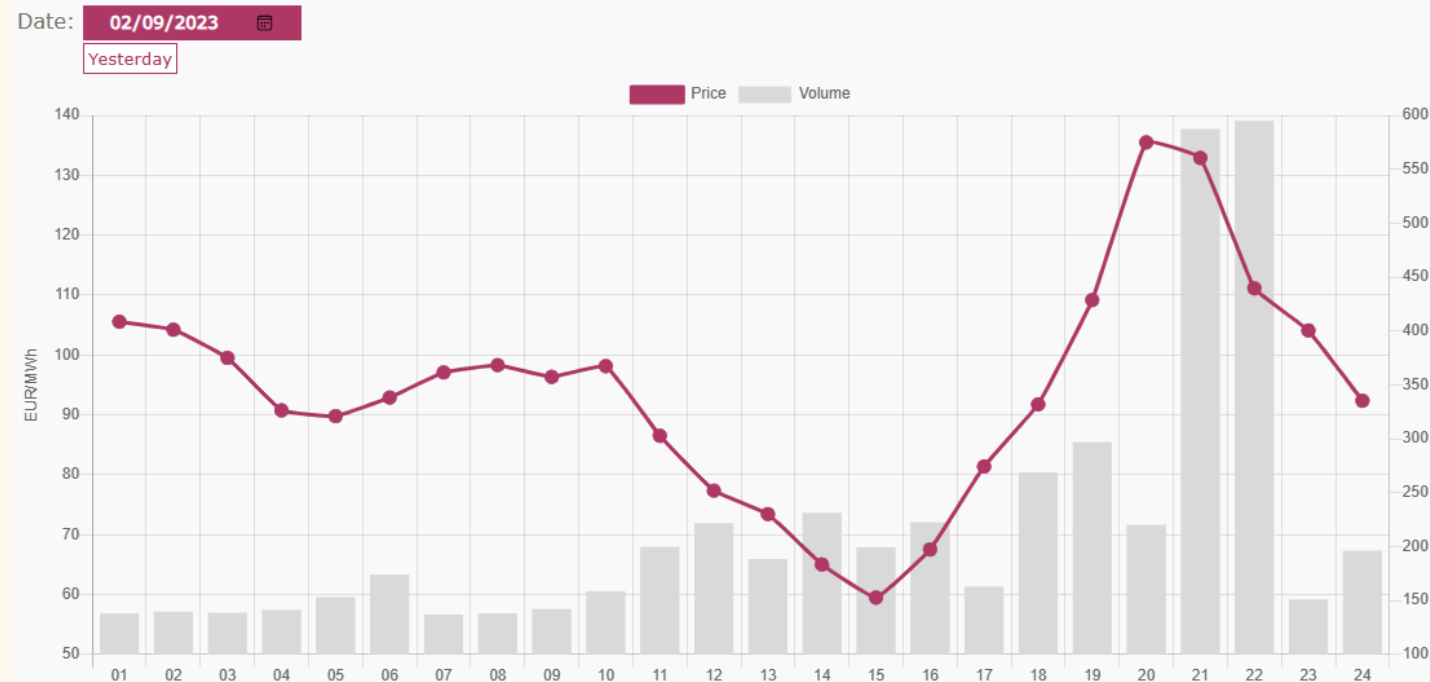
# DESTO

Data exchange between distributed energy resources and active customers for stable grid and energy saving by efficient storage



**interconnect**

# Problem Statement



## General problem

The energy produced by DER such as photovoltaic, wind, etc. is not efficiently used

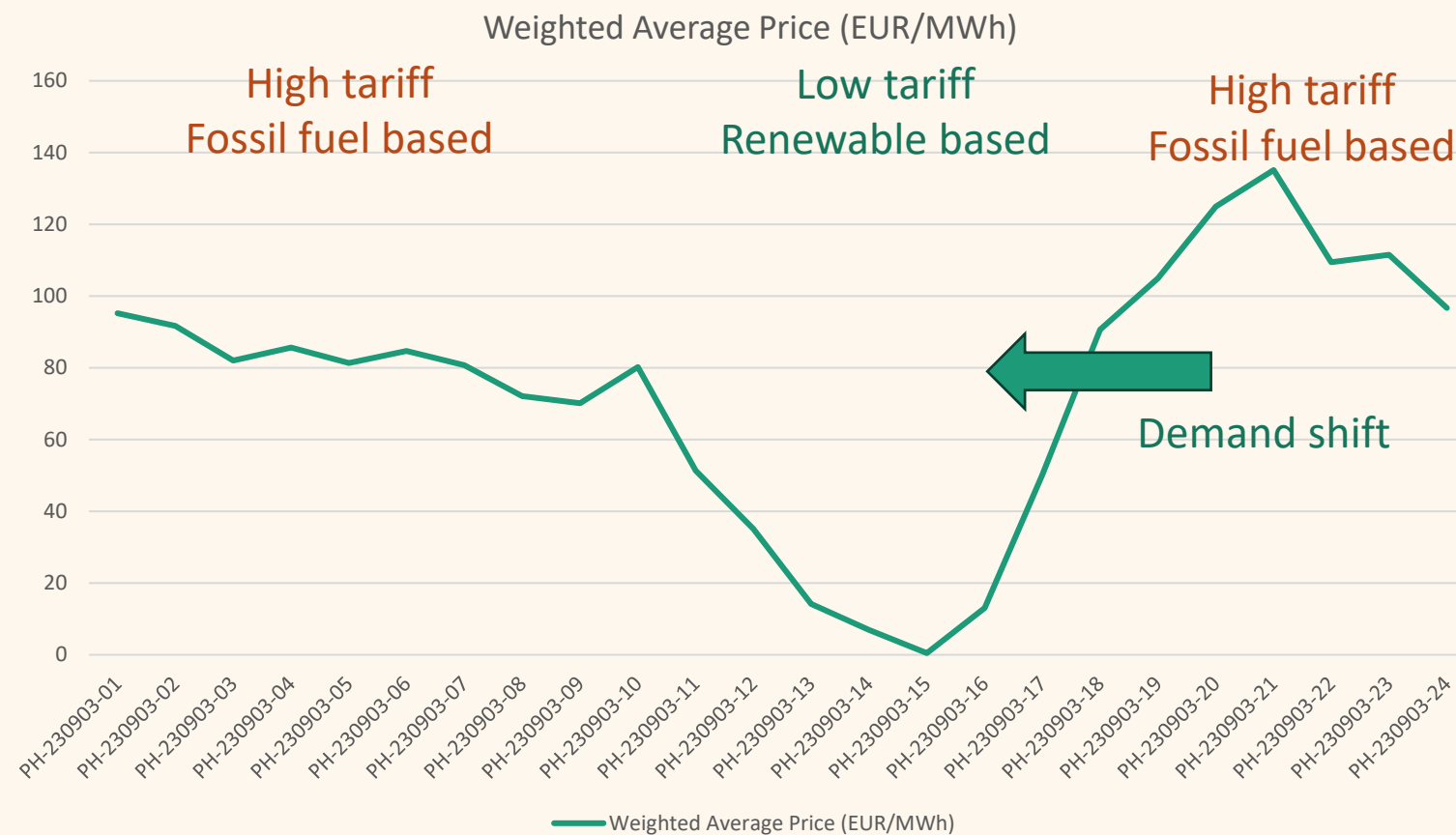
## Challenges:

- Reduced possibility of accurate forecasting of the generation profile
- A huge energy storage capacity is required in order to shift the demand

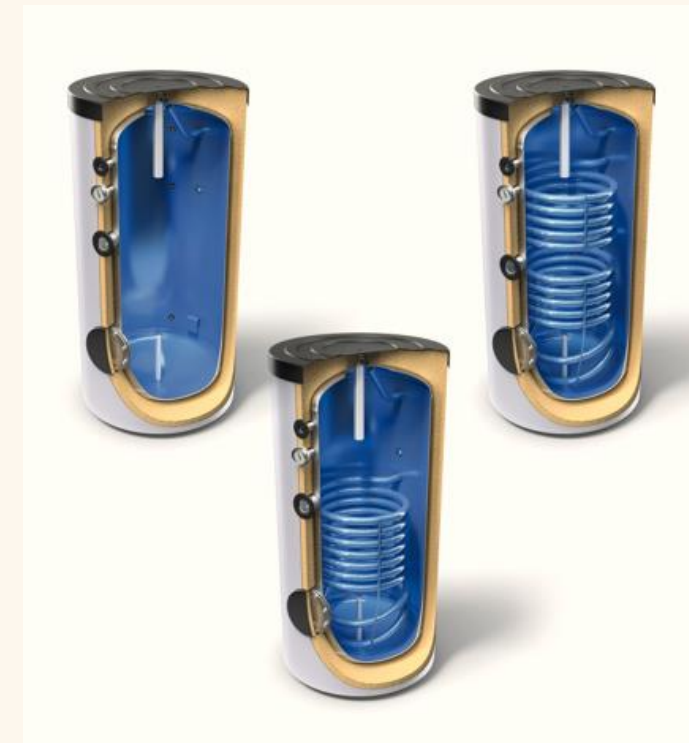
## Negative effects:

- The energy prices are often extremely low for the producers and very high for the consumers, so the both sides are facing significant losses
- Reduces ability for reaction to special requests from the Smart Grid
- Difficult to balance the network -> To keep reserves

# Our Solution - Concept

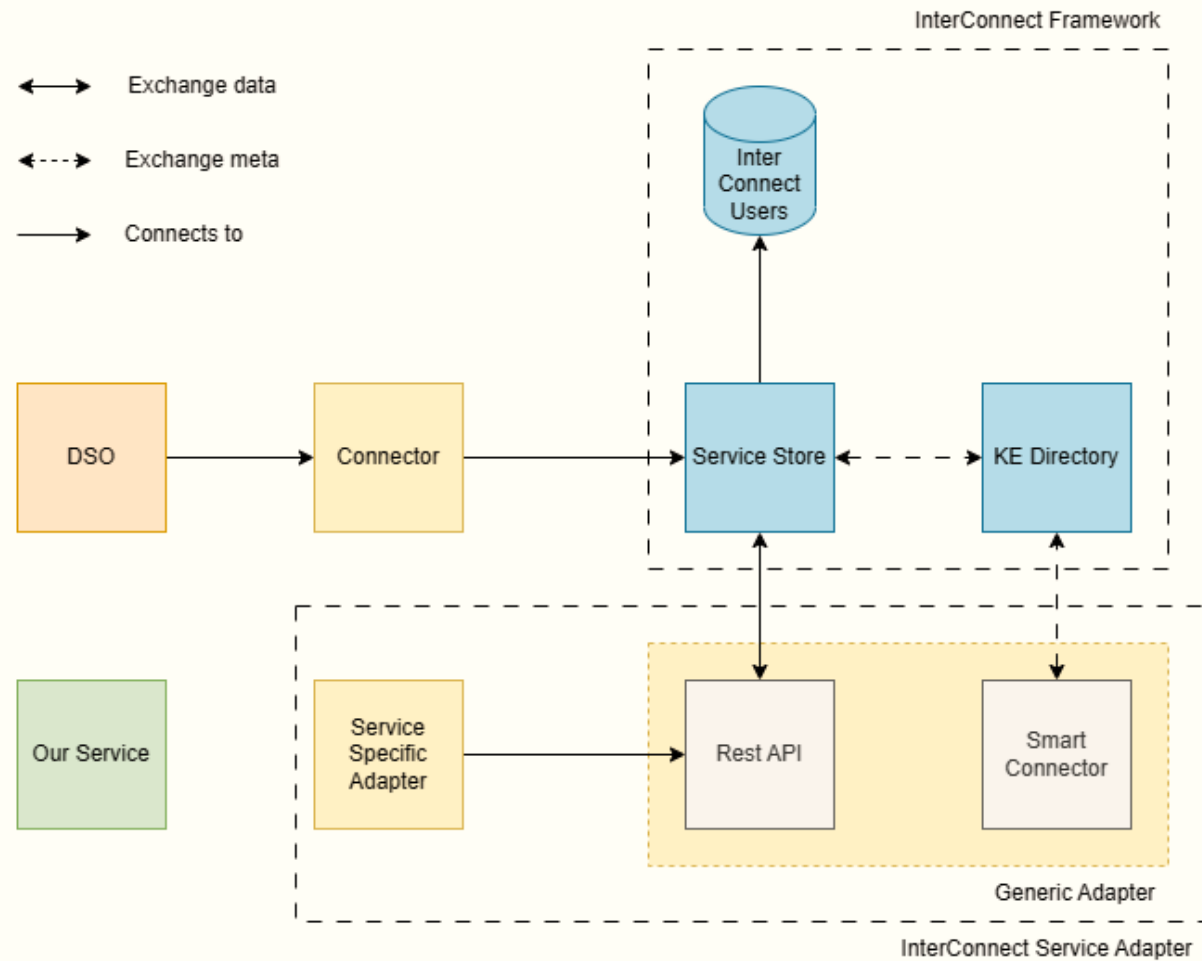


<https://ibex.bg/markets/idm/idm-prices-volumes-with-qh/>

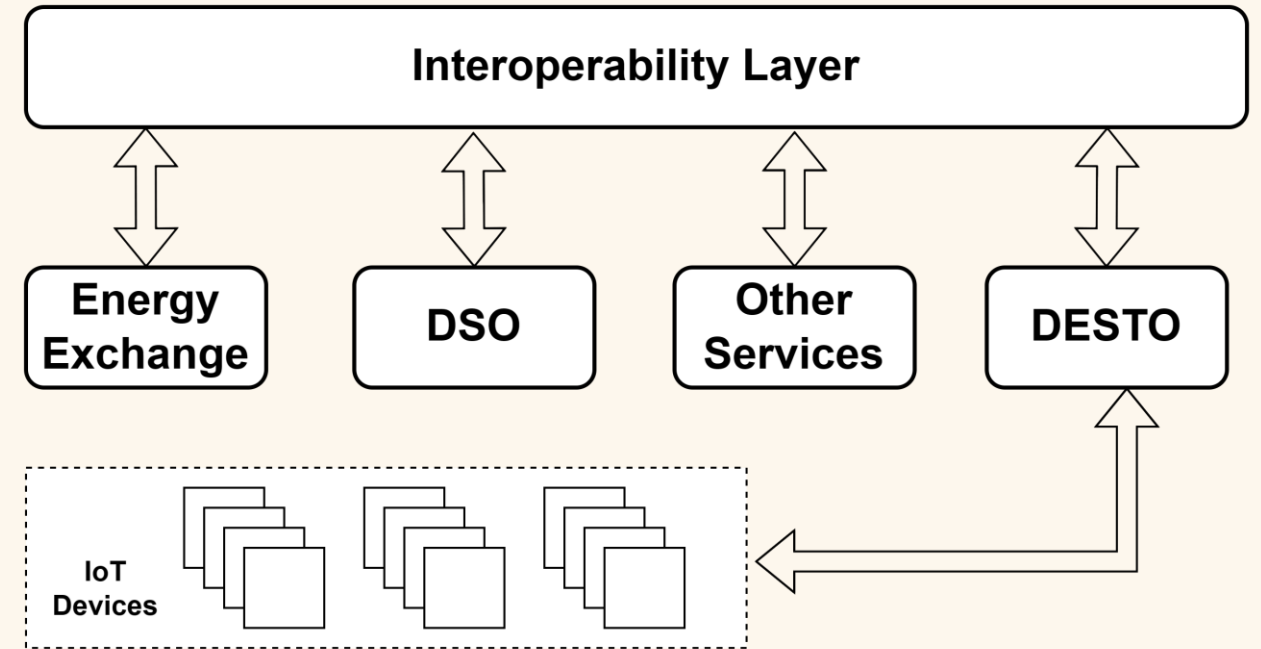


Thanks to the storage nature of the water storage heaters, the time for running the appliances could be shifted to the periods when DER produce energy at lower prices without compromising the user experience.

# Our Solution - Technical

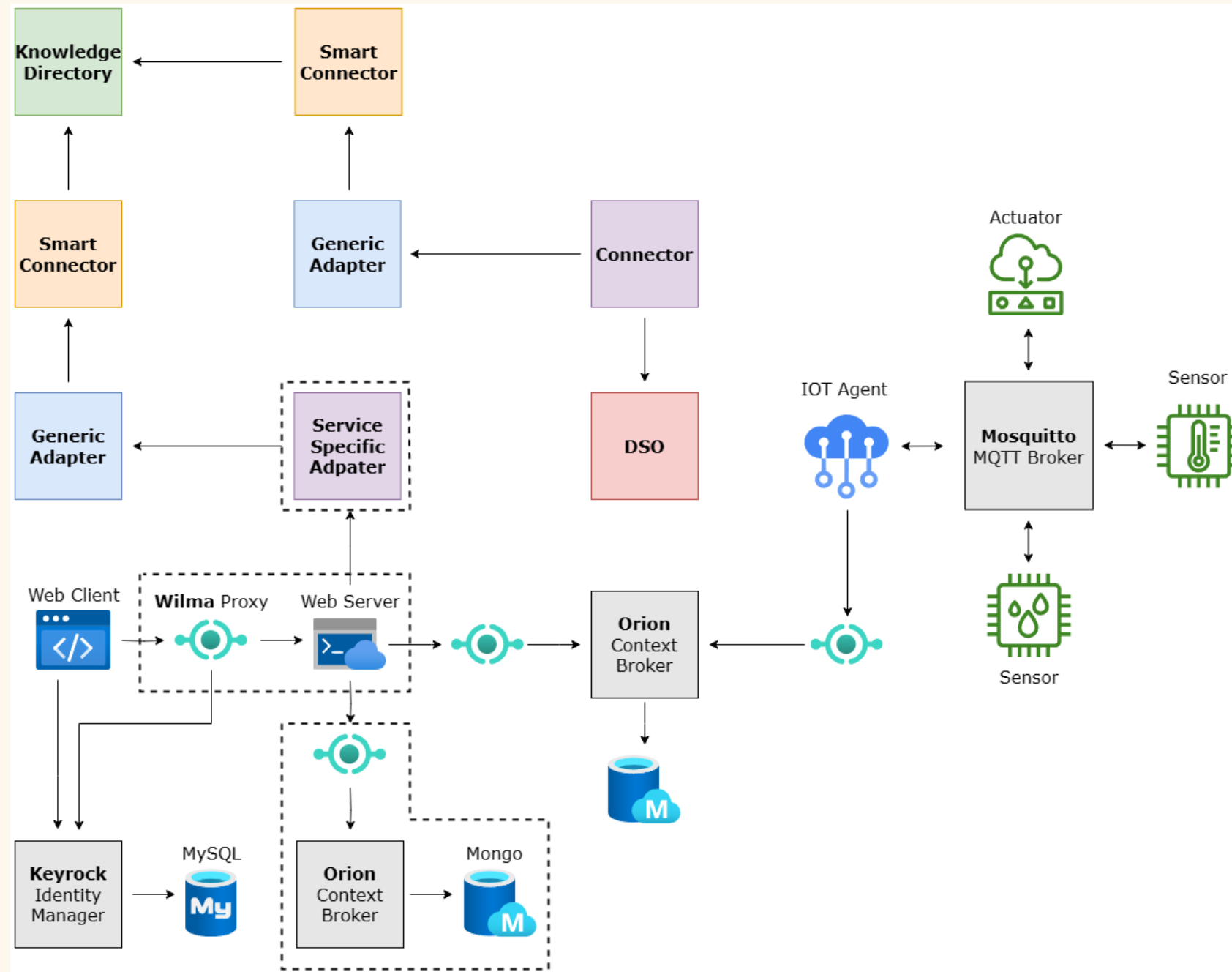


High level system architecture



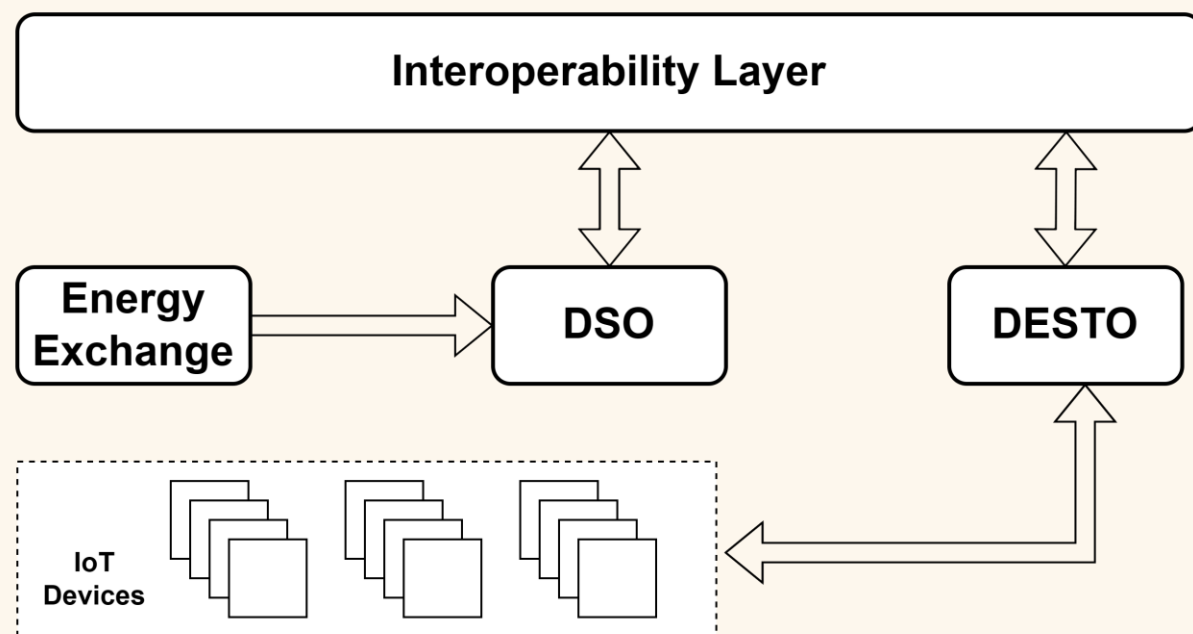
Provides interface between the IoT devices related to energy consumers (storage water heaters in this particular use case) and producers in order to allow reliable operation and savings based on demand side management and energy storage.

# Our Solution - Technical



System architecture

# Demo



To demonstrate the functionality and the benefits of the solution, a service that gets information about the prices ahead from the Bulgarian Energy Exchange has been created.

This service communicates with our application via the InterConnect Platform.

1. Visit the DsoDemo [link2] and login.
2. Push *Connect* and then *Register Interaction*, without changing any parameters.
3. Visit the DESTO demo app [link1] and push *Test Ask* button on the toolbar.
4. Push *Connect* and then *Register Interaction*.
5. At the DsoDemo push *Handle Start*.
6. At the DESTO demo app push *Ask*.
7. At the DsoDemo and push *Answer*.
8. Now the answer is available on the DESTO demo app.

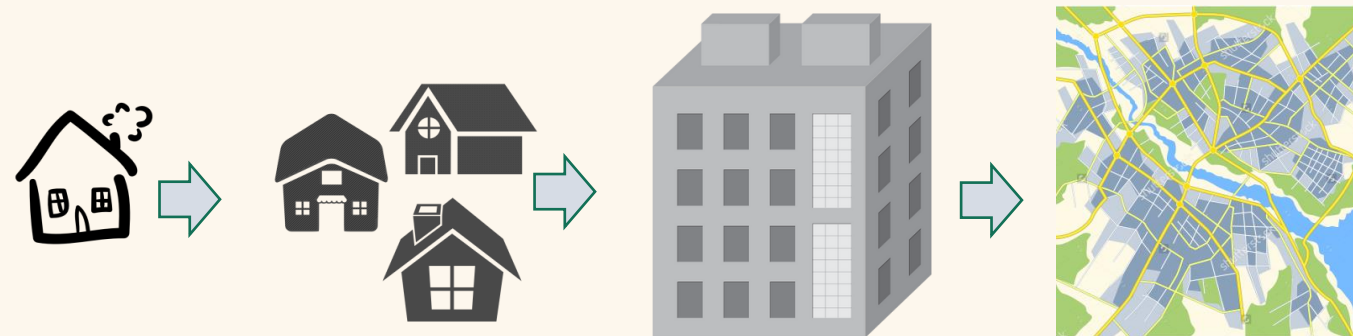
# Market Opportunity

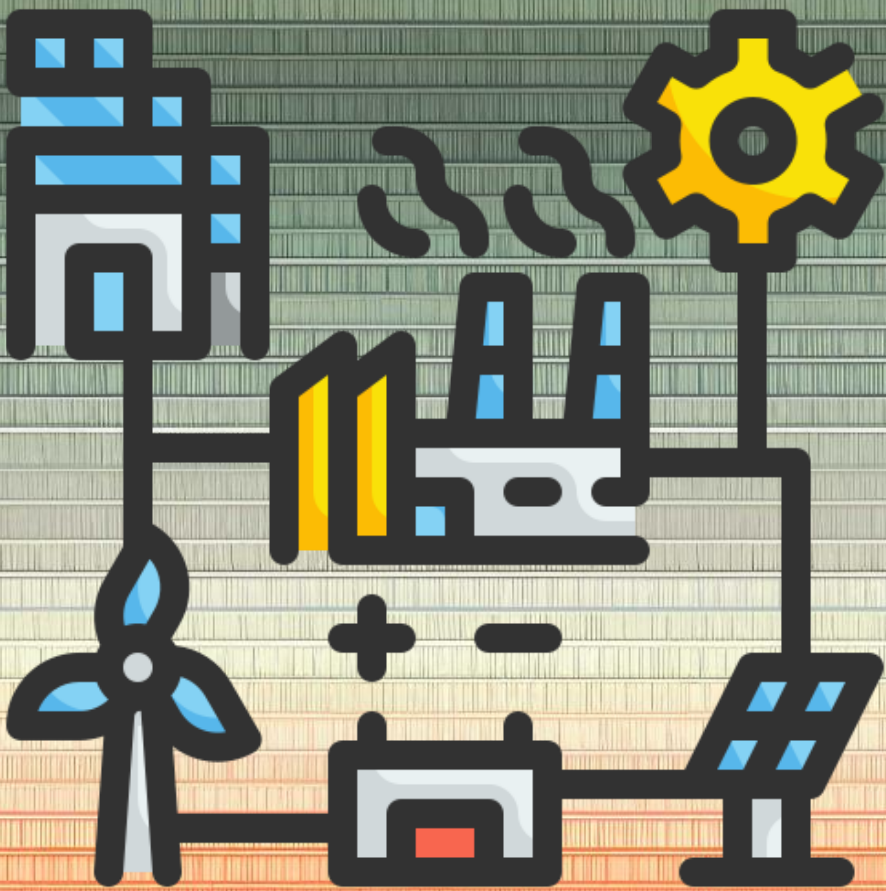
- Water heating takes a major share of the energy consumption in the residential sector.
- The nature of the storage water heaters allows smart energy management such as (re-) scheduling appliances in certain modes.

- Achieved average energy saving is **55 %**
- Around **30 MW** power is required to control the peaks. When scaled-up the DESTO project is expect to fully cover that amount.

	Power	Investment
DESTO Storage	<b>50 MW</b> (5000 appliances)	<b>1 750 000</b>
Chemical Battery	<b>50 MW</b>	<b>22 500 000</b>

- Sofia – 500 000 customers
- Bulgaria - 2 000 000 customers
- EU – 50 000 000 customers





The proposed solution was designed for end consumers to reduce their energy costs, but also engages Distributed Energy Resources (DER) such as photovoltaic, wind, cogeneration, water, geothermal, etc. and could be scaled up to EU level introducing the possibility of smart GRID for supporting the balance of the EU energy market.

## Ask/Call to Action

We invite you to join us on this exciting journey as we revolutionize the way smart grid operate. Contact us today to schedule a demo and explore how our solution can transform your organization.

[Schedule a Demo](#)

[Contact Us](#)