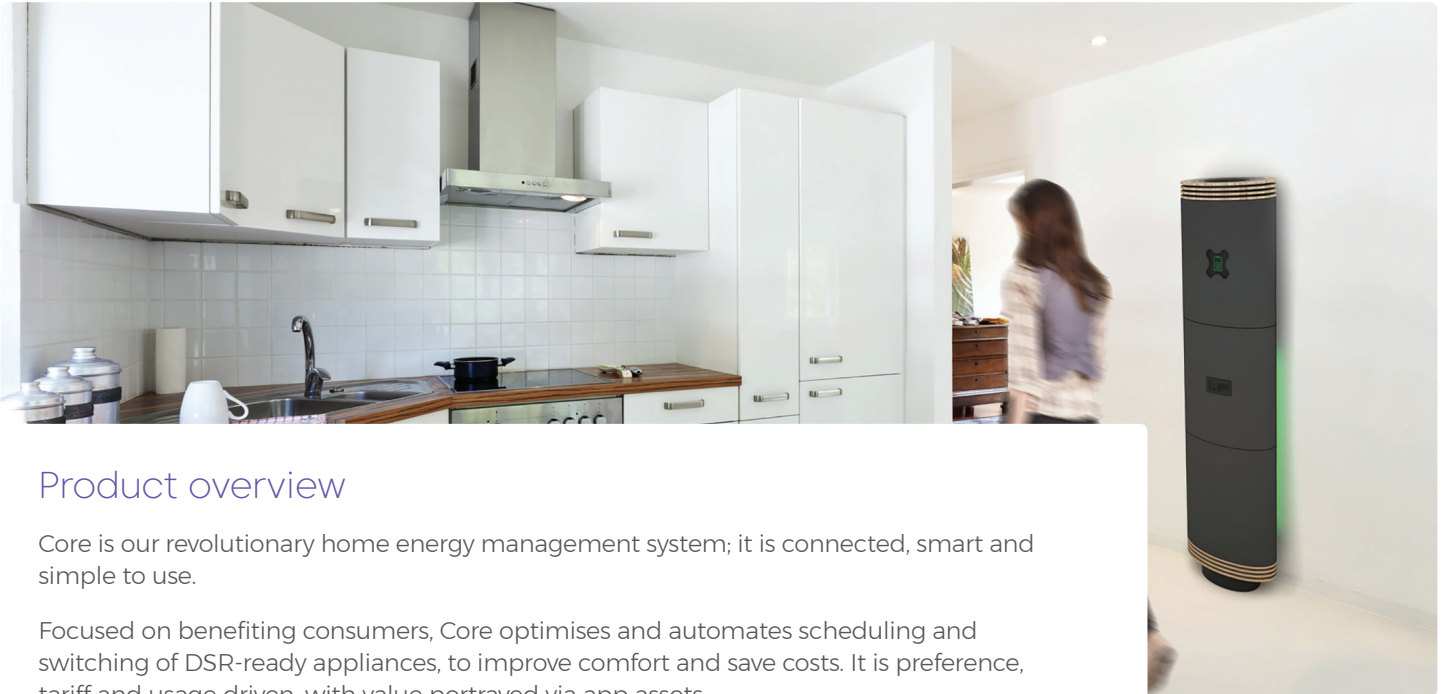# core
## Integrated energy management system

## Product overview

Core is our revolutionary home energy management system; it is connected, smart and simple to use.

Focused on benefiting consumers, Core optimises and automates scheduling and switching of DSR-ready appliances, to improve comfort and save costs. It is preference, tariff and usage driven, with value portrayed via app assets.

Coupling Core to any flexible load, be that domestic battery storage, an EV charger, programmable appliance or smart heating system, unlocks the value of flexibility for the household, energy retailer or service provider.

Core and the Hybrid Home add value to standard domestic energy storage, with optimised control for bill reduction and an engaging user interface, making this technology both desirable and accessible.

Core is the brains of the Hybrid Home - learning, predicting and optimising home energy systems.

When combined with smart monitoring of usage, generation and tariffs, one or more flexible loads, and a single user interface, Core turns your home into an active home, a Hybrid Home.

Using a hybrid of self-generated and grid power, households with Core can save over 50% from their energy bill by optimising time-of-use tariffs, maximising solar self-consumption and generating revenues from their flexibility.

## Key elements

geo's home energy manager, located in the home on geo's Core hub, and supported by geo's Cloud, comprises of five key elements:

1. Meter interface, to receive gathered data (demand, market cost, generation) that are needed to drive AI forecasts and decision making.

2. Flexibility interface, to receive and send grid signals between the home and DSR aggregator providers.

3. Smart energy manager, to learn, predict and optimise operation of the flexible loads. The AI decision making optimises schedules to meet household preferences, be that lowest cost, greatest convenience, or greenest energy.

4. Dispatch interface, to send control messages to in-home flexible loads.

5. User interface assets, can set preferences and monitor the benefits. These are optimally viewed within the geo app, but are designed for versatile integration with popular home interfaces, such as voice assistants.

## Key Features and Benefits

### Engaging single user interface

Bringing together the smart energy systems of the home into one interface, where households can submit preferences and monitor the benefits created. The cloud back-end has been designed to maximise consumer engagement and customer retention. Whilst optimised and designed for use in the geo app, the content can be tailored to meet your needs or provided as app assets for your chosen interface.

### In-home connectivity

Built on our wireless in-home data communication spine, Core interfaces with existing geo products, ben-efiting households with integrated smart meter data, automated smart heating and smart plug control. Using the same data communication spine, our ecosystem is capable of interfacing with third party technologies that would benefit from smart scheduling and could offer households increased functionality and savings.
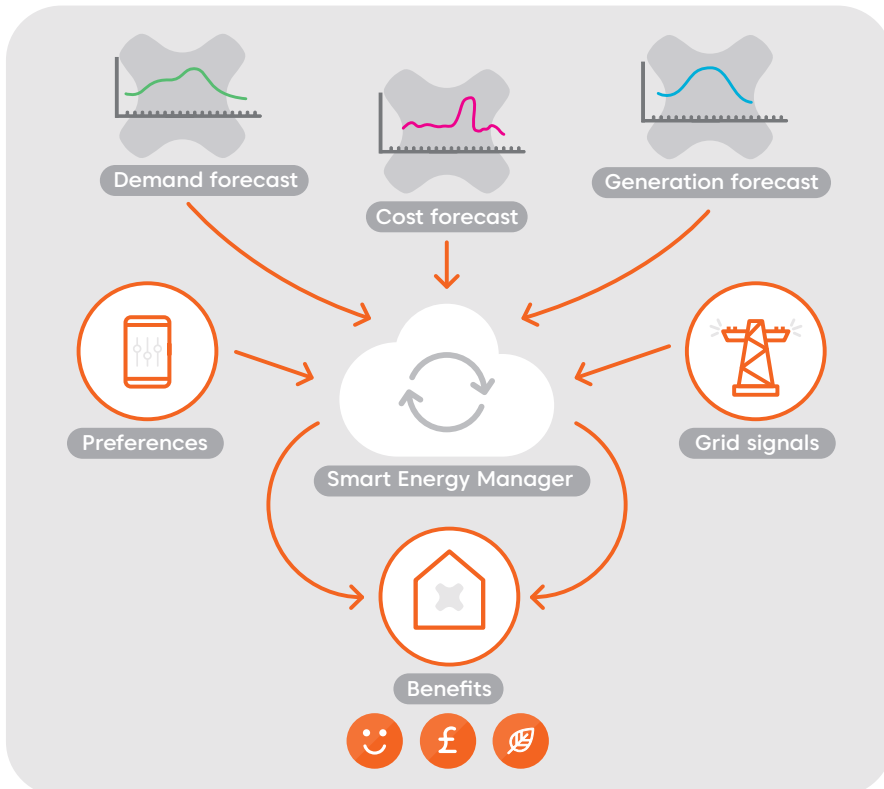
### Smart control and automation

In tandem, the cloud and hub learn, predict and opti-mise appliance control in accordance with user pref-erences and grid signals. The system is modular and upgradable, ensuring future compatibility. Our learning algorithms are derived and refined from data from a selection of our 5million+ deployed systems.

### Enabling smart, desirable all-electric homes

With Core at the heart, our smart energy management enables desirable all-electric Hybrid Homes through smart control of electric heating (via our Cosy product family). All-electric homes are cheaper to build, lower cost to connect and produce less carbon emissions in use. Smart management of housthold energy can help house builders meet building regulations more affordably.

### Choice over your flexibility provider

Core helps balance the electricity grid by interfacing with, and responding to aggregator signals to deliv-er flexibility services. We understand customers want choice, therefore our flexibility interface is intentionally aggregator and platform agnostic. Through their pre-ferred interface, households (or utilities) can select their favoured flexibility provider and benefit from the available recurring revenues.



geo's smart energy manager - optimising forecasts and grid signals to meet household preferences and maximise benefits