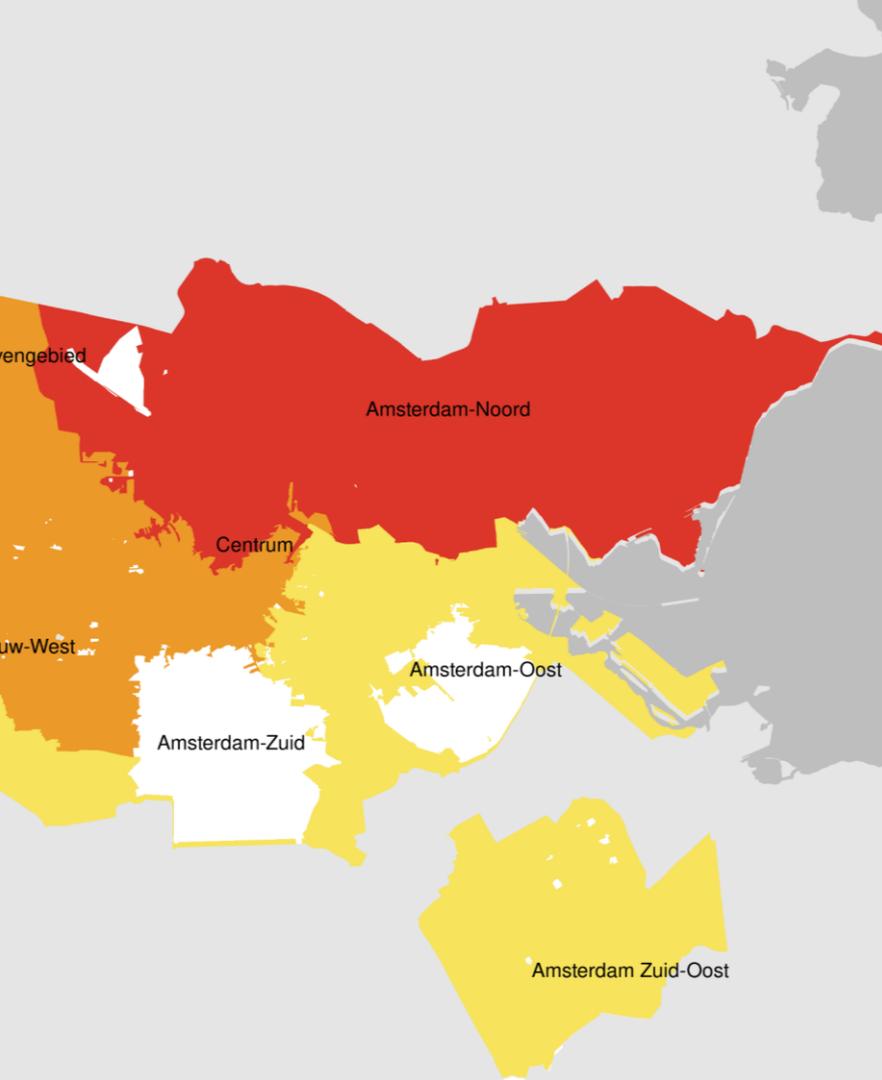




Fritzy and friends

Blockchain-based electrical grid optimization





Electrical congestion map of Amsterdam

- No more capacity available to deliver
- No more capacity available to deliver, performing congestion Management research
- Very little capacity available to deliver

Grid congestion is a huge bottleneck in making Port of Amsterdam more sustainable. Our energy infrastructure is under pressure.

Upgrading the grid would take years and is very expensive. For companies planning to expand, modernize, or even establish their facilities in Amsterdam area, the electricity grid is a serious limitation.

Solution: Optimizing the use and generation of energy at the local level

Fritzy & friends aims to balance supply & demand automatically to ensure security of energy. Parties or even devices trade automatically, while the common group interest - security of supply- is guaranteed by all parties involved.

The aim is not only to significantly **reduce costs** but also to ensure that the **required energy is always available** and that the existing **energy infrastructure is used more efficiently**.

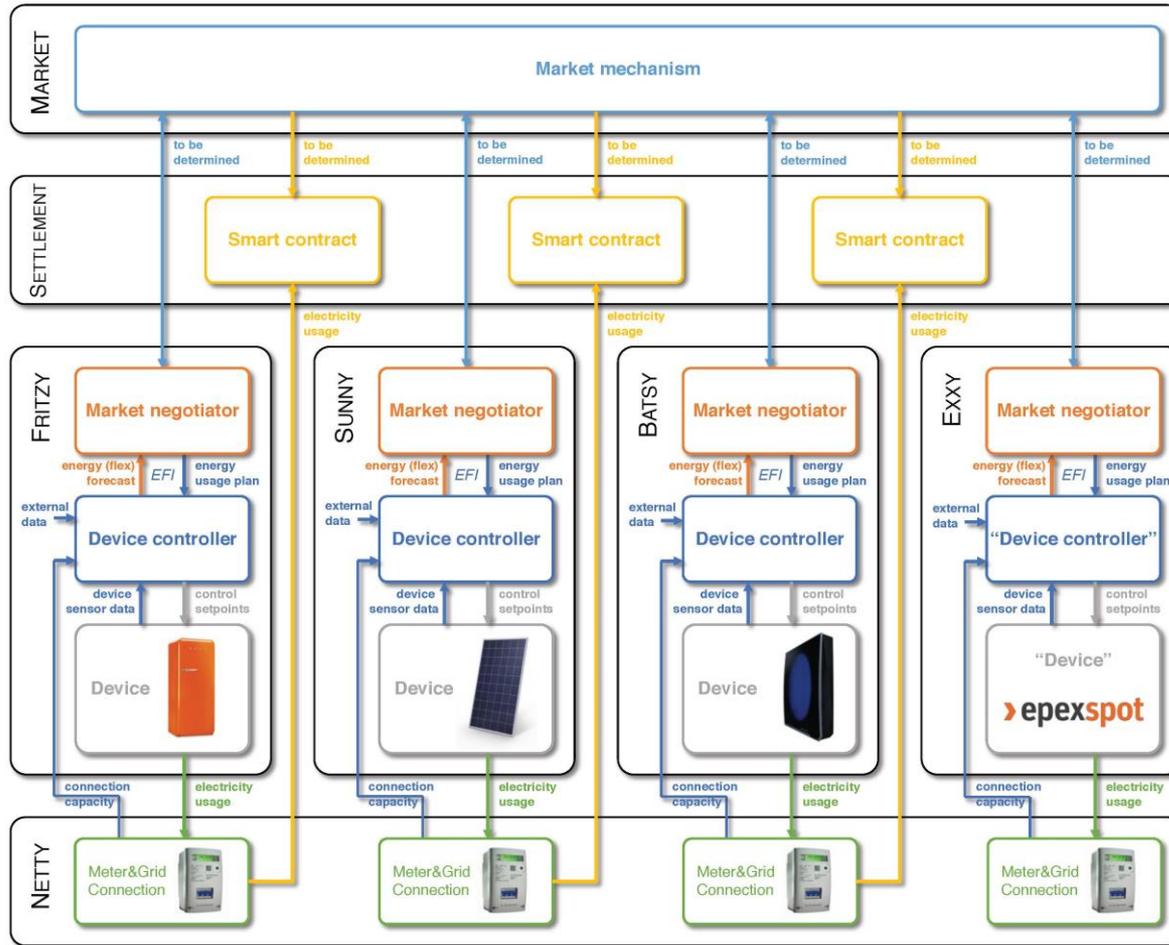
Fritzy & friends



In Prodock, Port of Amsterdam's innovation hub, such futuristic model for the energy market has been developed and piloted on a smart refrigerator called “Fritzy”. Fritzy also has friends, namely “Batty” the battery, “Sunny” the solar panels and “Netty” the grid. Each of these market parties will have their own behavior (AI) and based on their predicted consumption they make their own bids to purchase energy from or sell energy to the network. By means of a decentralized blockchain exchange (Ox.org) bids are matched and settled with each other. The local grid in Prodock (Netty) has a technical maximum for the available power and just like in the meter cabinet at home, the mains fuse could be cut off if more power is drawn.

Fritzy & friends technology architecture

HERZIENE ARCHITECTUURSCHETS FRITZY & FRIENDS

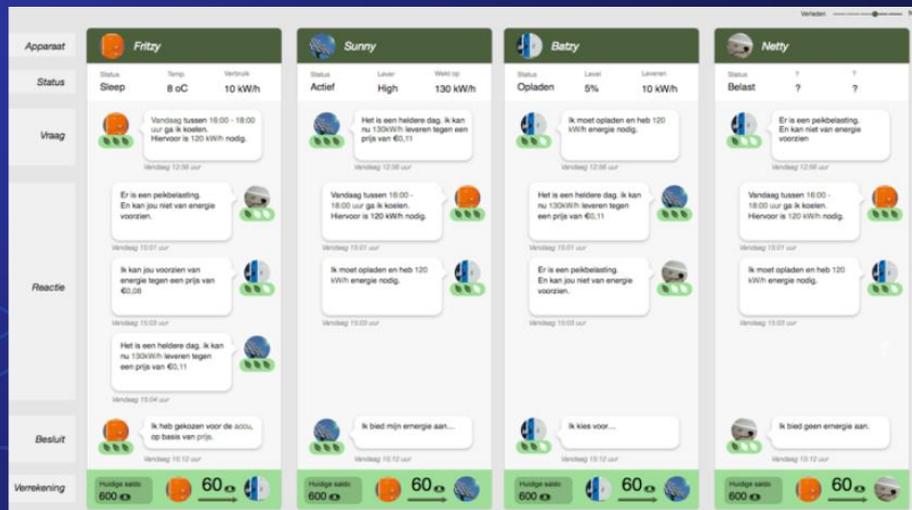


Open-source solutions for the future

Fritz & friends has been developed as an open-source software to enable scalability and expandability through expert communities, and it's now available on Github.

This system has been successfully tested on a small scale, larger deployments and pilots are being planned.

Fritz & friends was developed by Port of Amsterdam together with Technolution and OneUp in an effort to explore radical energy market models.



Contact us to know more about Fritzzy & friends:



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