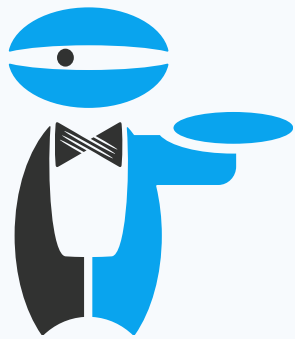


HIQ Energy

Technology, products and solutions for sustainable energy

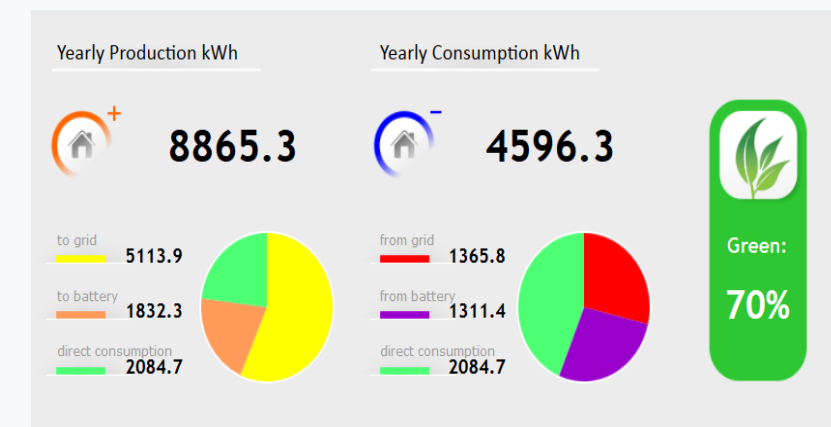
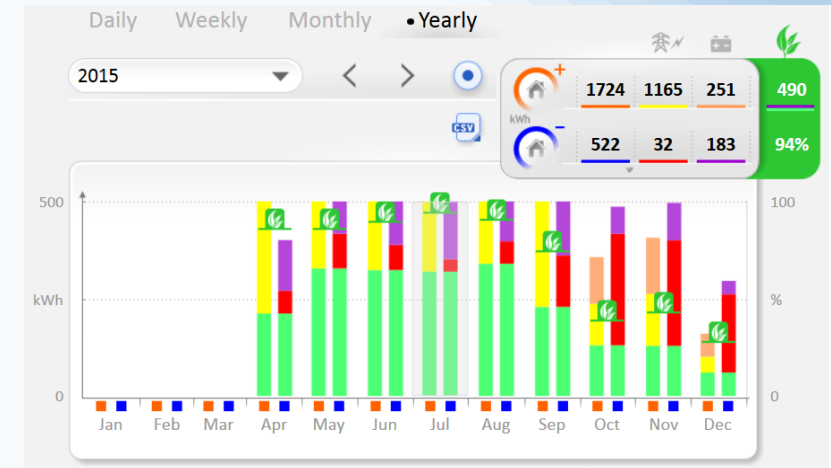
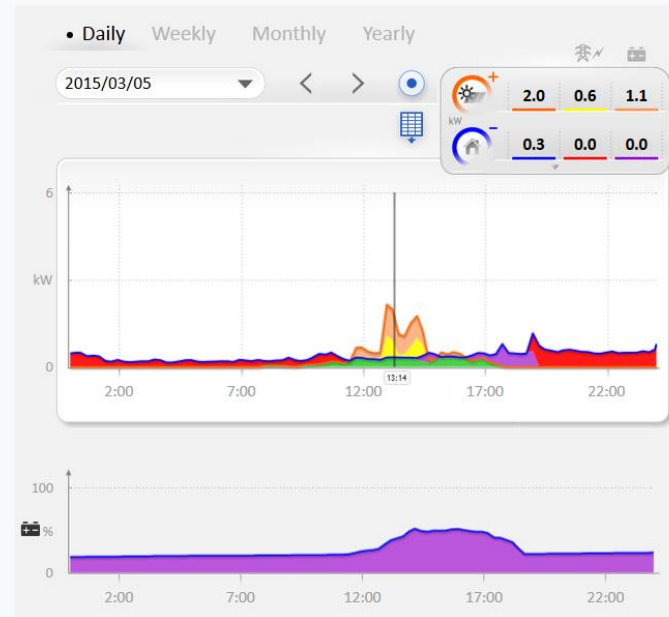
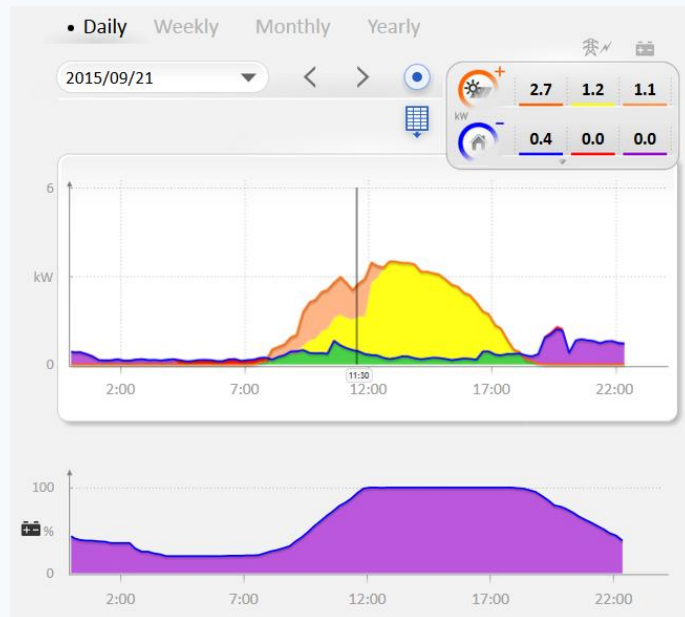


HEMS maximizes self-consumption in residential house with PV and battery storage

Energy
self-sufficiency

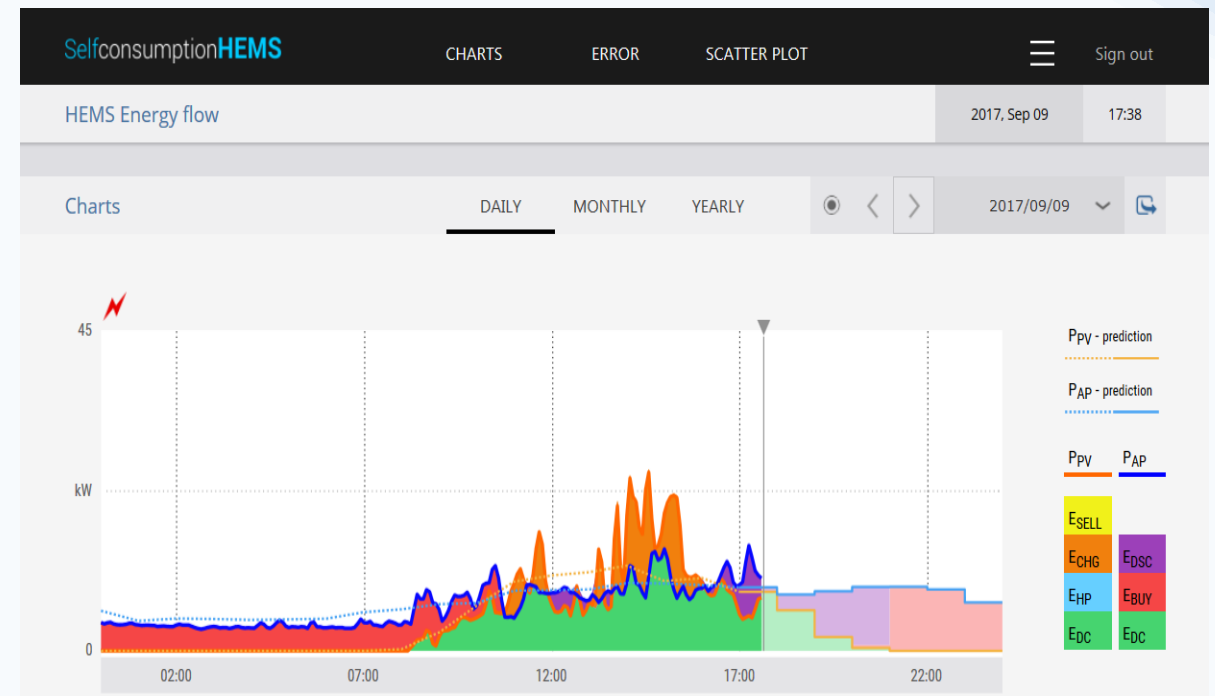
Summer:
close to 100% self-sufficiency

Winter:
30-40% self-sufficiency



Optimization of energy flow in dynamic environment

1. Prediction of in-house consumption (electrical + thermal energy) by machine learning
2. Forecast of PV generation based on weather prognosis
3. Hourly price of electrical energy
4. Dynamic optimization for minimum costs of energy



Engagement of prosumers for Grid stabilization

1. Demand/Response server

- company trading with renewable energy

2. Area energy management server

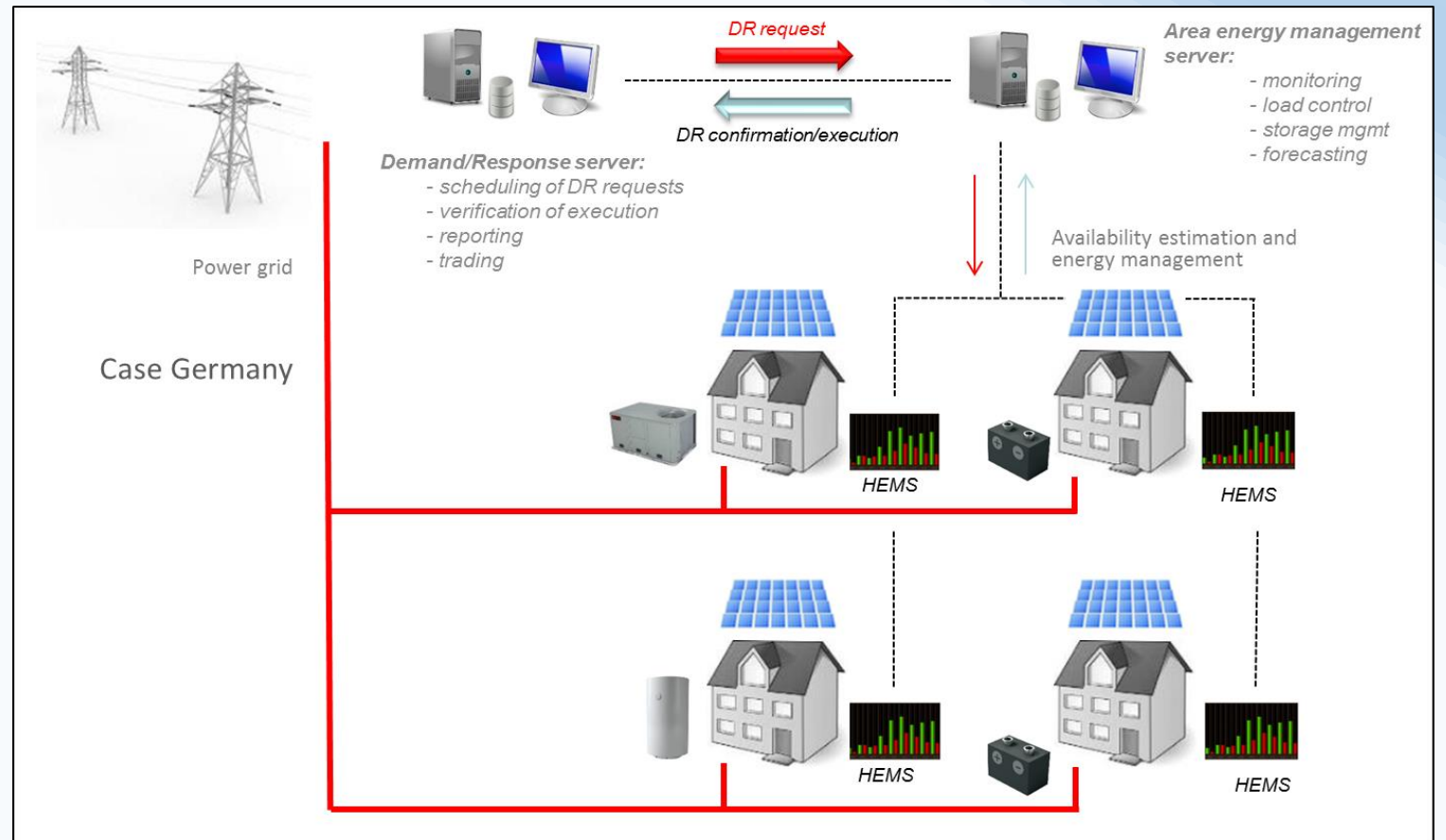
- cluster of Robotina's HEMS-es
- SMIP server

3. Server to server communication

- via API communication interface

4. HEMS - control of your energy flow

- according to external criteria
- basically using explicit=battery storage



IoT platform ready for services

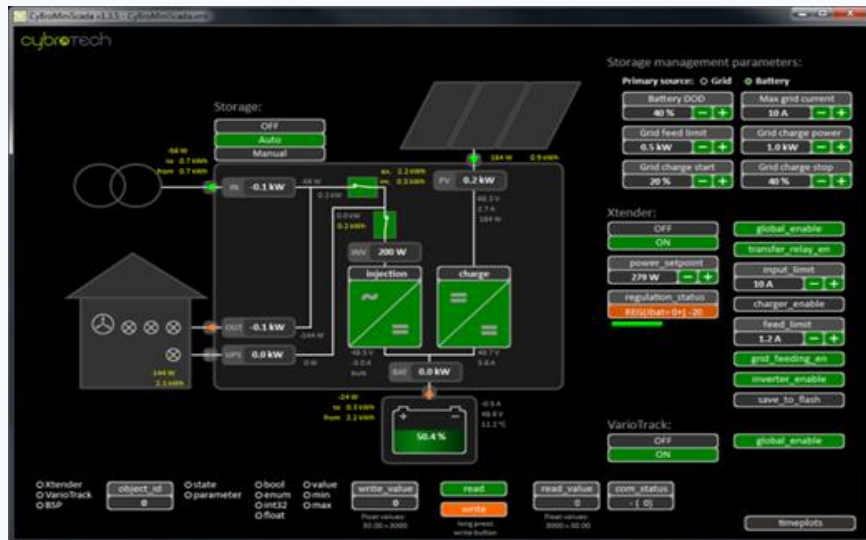
Complete IoT platform
- ready for services

Product's lifecycle management

Remote product upgrades

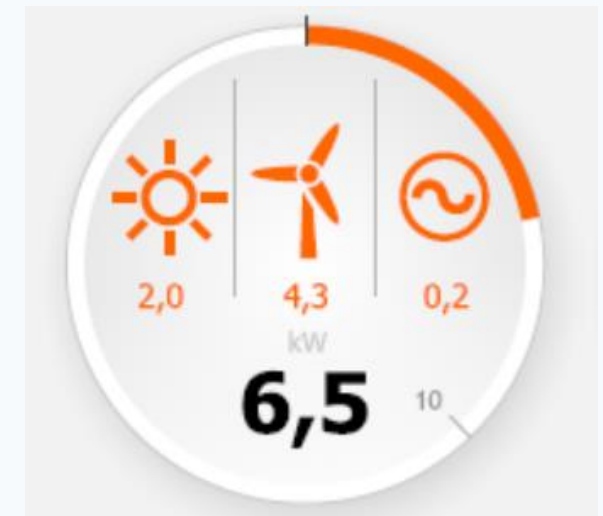
Portfolio management

Aggregation



The screenshot shows a dashboard titled 'neoGrid' with a table of system data. The table has columns for ID, Name, Battery, System state, Alarms, and Online status. The data is as follows:

ID	Name	Battery	System state	Alarms	Online status
c13461	Vaßen 3	30.8%	🟡	98	🟡
c13462	Reuter	?	🟡	5	🔴
c14275	Jabs/Naunhof	21.2%	🟡	61	🟡
c14276	EHoeffker	14.4%	🔴	107	🟡
c14283	Zoglauer	24.8%	🔴	115	🟡
c14288	Korsatko	32.4%	🟡	57	🟡
c14289	Schober	24.0%	🟡	61	🟢
c14290	Schramm	24.8%	🟡	158	🟢
c14314	Neostore 014314	84.2%	🟢	18	🟢
c14355	Neostore 014355	?	🟡	9	🔴
c14418	Rausch-Becker	8.8%	🔴	74	🟡
c14565	Neostore 014565 Test	?	🟡	9	🔴



eStore : battery storage

neostore → eStore F

hybrid inverter 3,0 kW
PV power input 4,5 kW
max DC voltage 500 VDC
MPP trackers 1 x 18A

Battery charger 48VDC, 25A max
Batteries Li-ion 2,8 - 8,4 kWh
Weight from 120 kg

neostore → eStore D

3p hybrid inv 10,0 kW
PV power input 14,8 kW
max DC voltage 900 VDC
MPP trackers 2 x 18,6A

Battery charger 48VDC, 200A max
Batteries Li-ion 11,2 – 44,8 kWh
Weight from 280 kg

eStore is a vital component of HEMS

Maximum flexibility of „time of use“:

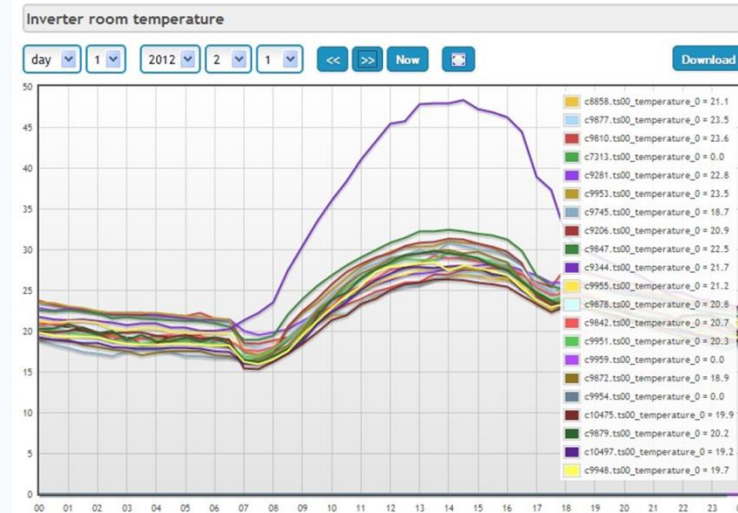
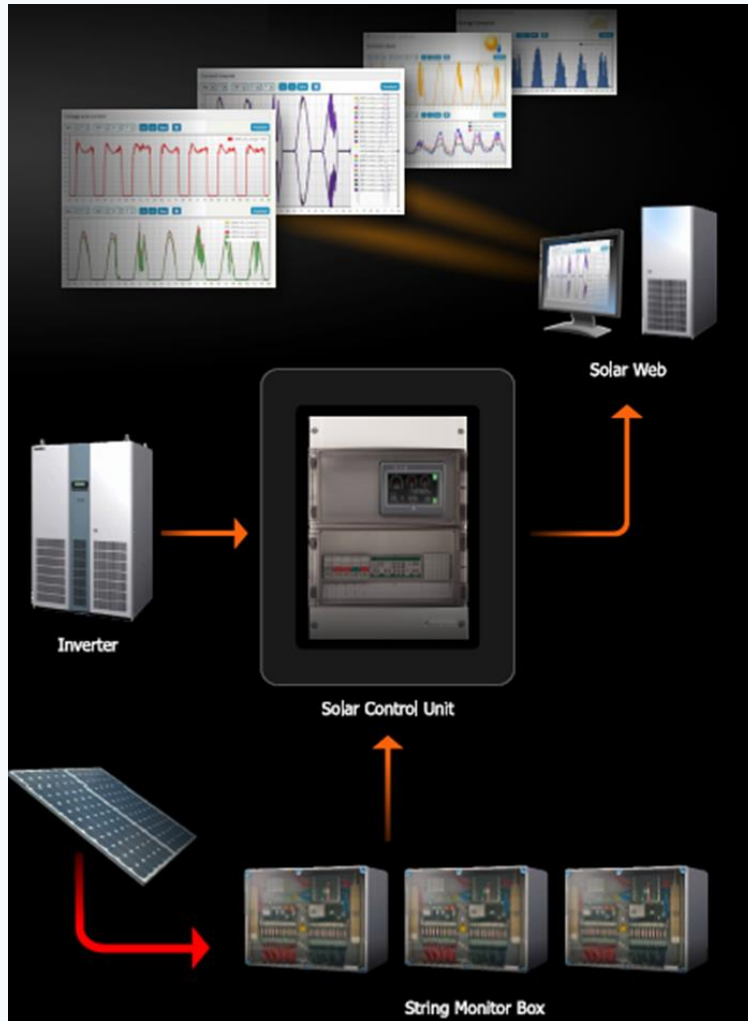
- Maximize self-consumption to lower the cost of electrical energy
- Active prosumer in smart grid to earn money by selling own generated energy



Controlled by Robotina – Cybrotech

SPSS - complete integrated system for solar plant monitoring and management

Ensure your ROI!



Benefits for EPC and O&M company:

- Fast and cost effective start-up
- Assuring maximum yield
- Effective maintenance throughout the plant lifecycle

I-DOMAIN Taiwan
10 MW, 2011

NED Thailand
84MW, 2011, 2012
52MW, 2014

India
>100 MWp 2011 →

Japan
6 PV plants 2013 →
3,2 MW

Your sustainable energy future

