EcoPhi

Renewables Engineering

EcoPhi in a nutshell

Remote monitoring and control solutions for solar, water and agriculture

- Founded 2020, experience since 2014 in building off-grid solar and water systems
- Based in Karlsruhe, Germany
- Start in East Africa, focus on African continent
- Projects in 14 countries and 12 upcoming countries
- EPCs, O&M companies, operators and NGOs

Why do water supply and agri systems need monitoring?

- Crucial supply
- Standstills and underperformance lead to
  - Less drinking water
  - Less water for irrigation
  - Crop losses
  - Lower income
- Undetected problems
- Difficult troubleshooting
- Hard-to-reach and widely distributed systems
- Difficult access to skilled technicians

EcoPhi Remote Monitoring and Control

Inverter Data

victron energy · Cummins · HUAWEI · DSE · SMA · + more

EcoPhi Boxes

Additional sensors

+ more

Wi Fi

External Platforms and Data

+ more

API

EcoPhi Platform

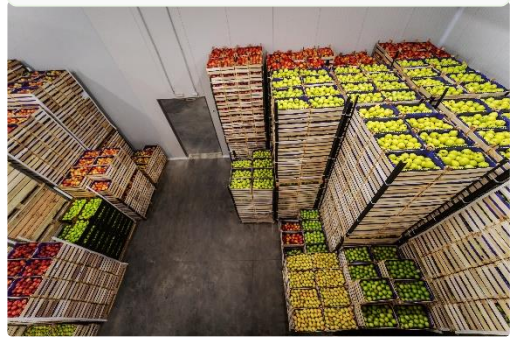
- Visualization
- Single systems
- Aggregated views
- Remote control

- Alarms
- Reports
- Performance
- Technician-service

Flexible monitoring for solar, water and agri

Solar Home Systems

Solar cold storage



Irrigation systems

Off-grid stand-alone

Solar water pumping

Off-grid standalone systems

EcoPhi Off-grid monitoring

Robust systems

Detect problems in the systems and optimize performance

Remote access and control of the system

Intelligent control of consumers on-spot and load prioritization

Even for weak-grid areas, data storage during network outages

Monitoring of pumping systems

EcoPhi Irrigation-Monitoring

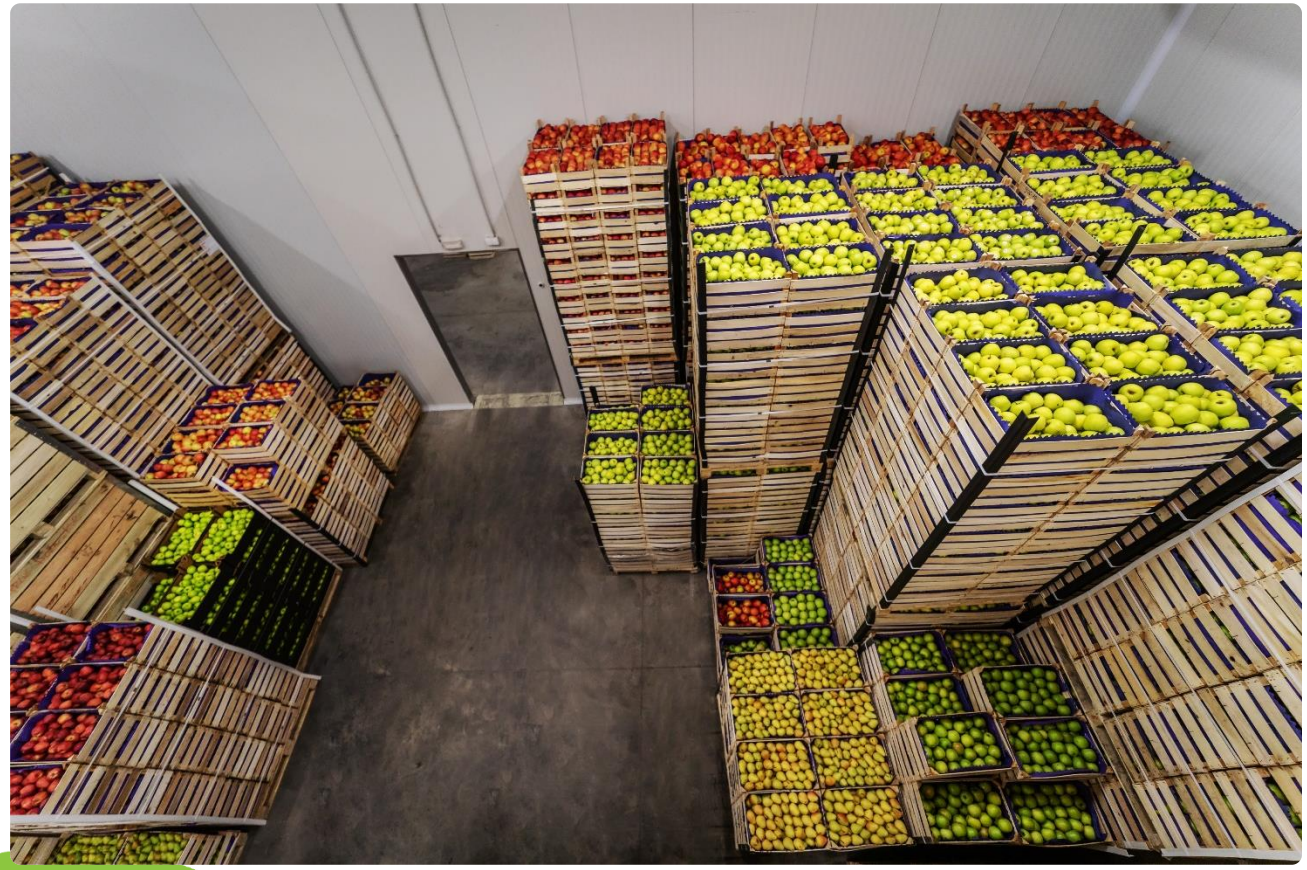
Monitoring of input side and distribution

Monitoring and control of water pumping systems

Special sensors for leakage detection, water flow or water levels

Remote control and troubleshooting

Monitoring and control of cooling systems



EcoPhi Cold Storage-Monitoring

Monitoring of devices, temperature and humidity

Optimization of the processes

Online visualization of the cooling flow

Security-monitoring of doors

Active control of the system possible

Public image by proving uninterrupted cooling chain

Smart irrigation systems

EcoPhi Irrigation-Monitoring

Wide range and amount of external sensors

Exact and efficient watering schemes

Detect problems in the systems

Remote access and control of the system

Save water, time and cost with intelligent irrigation systems

Your Advantage with EcoPhi Remote Monitoring

Reduction of maintenance and repair cost

Transparency

24/7 access to information

Prevention of system failures

Working Systems

Shorter Standstills

Sustainable Projects

Avoiding unnecessary travels

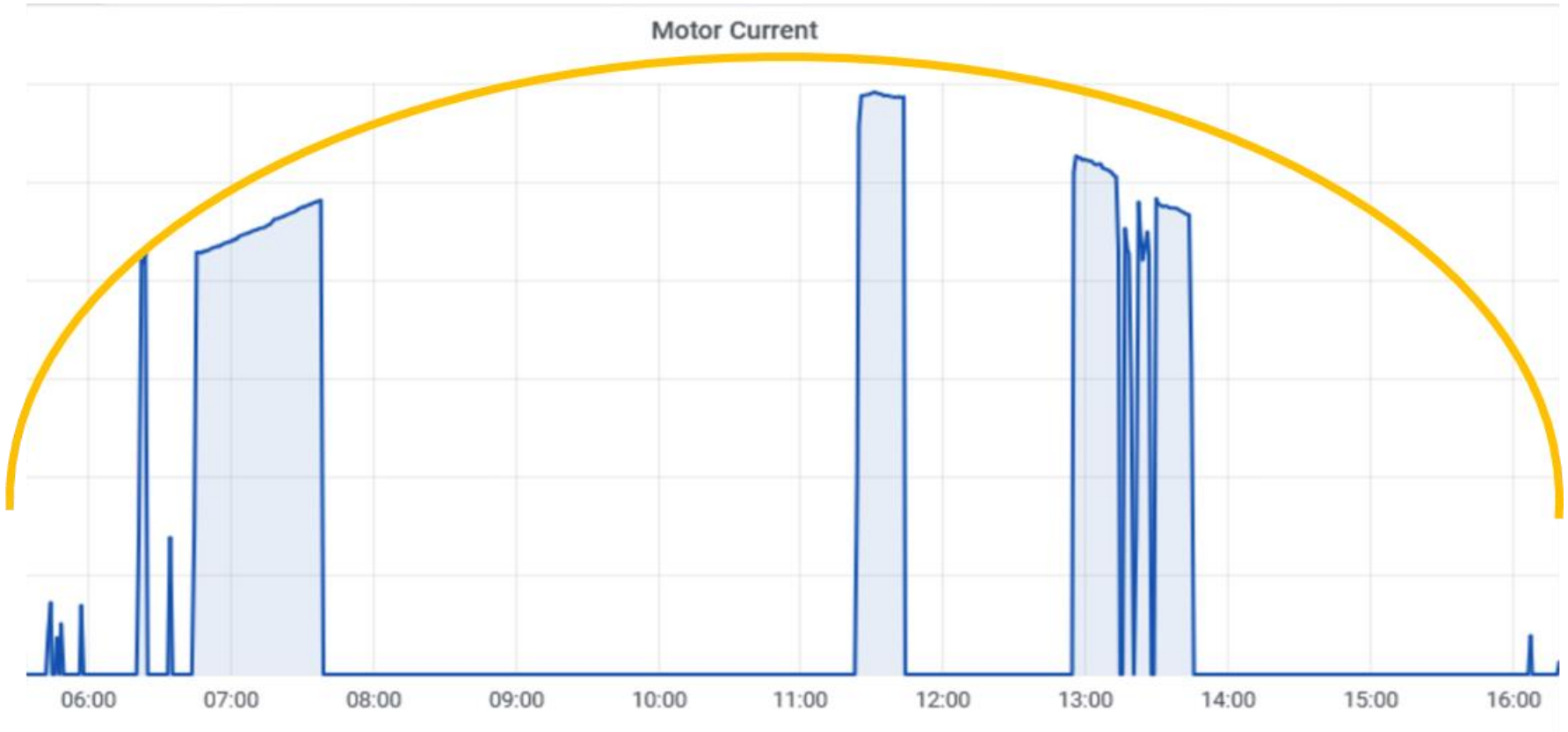
Increase the lifetime of system

Fast reaction time

Easier troubleshooting

Case study 1 – Wrong system design

Case study 1 – Wrong system design



Case Study 2: Degredation

- Sudden stop of the system
- Outage of system:
  - No irrigation possible
  - Dry fields
  - Crop losses
  - Low income

Case Study 2: Degredation

Without monitoring:

- Groundwater
- Pipes
- Solar
- Inverter
- Cables
- Pump
- ….

With monitoring:

- React before the system stops
- Excatly define problem

Case Study 2: Degredation

- Same power, decreasing water flow
- Probability of pump failure
- Early reaction and field checks

Summary

- All-in-one monitoring and control
- Solar + Water + Agriculture
- Hardware + IT solutions
- Wide range of applications from simple to large and complex systems
- Independent from manufacturers

Booth B5.370G

Get in touch

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