Satellite-based nowcasting services for energy communities

How to optimize the usage of renewable energy
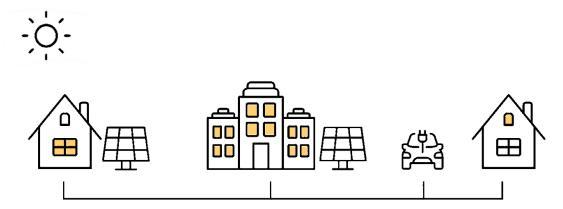
Lukas Prenner

CEO & Founder of energyfamily GmbH
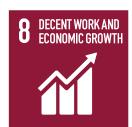
Paris, 16.04.2024

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WHAT?

- Energy can be **produced, saved, sold** and **shared** across property boundaries.
- **Private households, small and medium-sized enterprises** and **municipalities** can be part.
- Energy communities are enabled by EU directives.

WHY?

- democratisation of the energy system
- promotion of the development of renewable energy
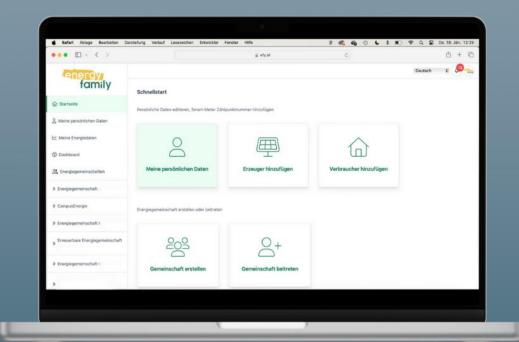- sustainability
- fair, stable energy prices
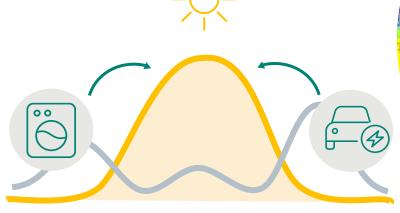
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WHAT IS ENERGY FAMILY?

We offer services around energy communities and developed a **platform** which makes it **easy to found and manage energy communities**.
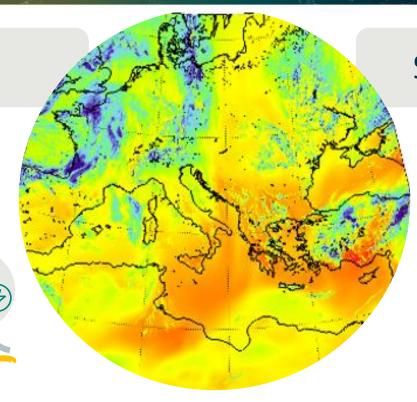
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PROBLEM

Misfit of production & consumption

SOLUTION

Distributed energy management with solar nowcasting for
- Energy communities
- Cities, regions
- Electricty Network Operators
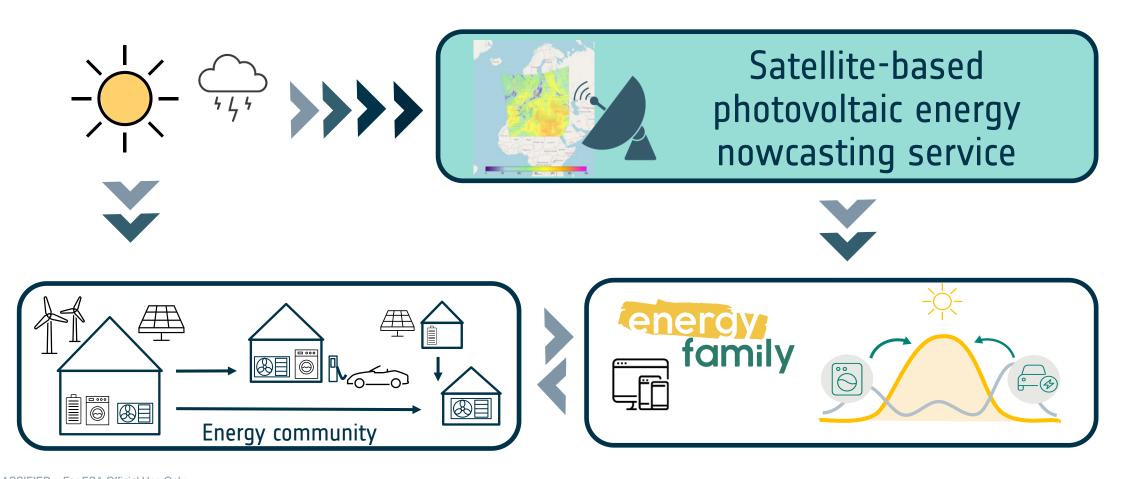
HORIZON-project „Thinking Earth"
Copernicus data uptake with AI and HPC

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Our goal is to optimize the energy management in energy communities.

Satellite-based photovoltaic energy nowcasting service

Energy community

energy family

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SOLAR NOWCASTING FOR ENERGY COMMUNITIES

WHY?

- Availability & Affordability of solar nowcasting for **everyone**
- Increasing the efficiency of renewable energy
- Providing **flexibility** to the electricity network

WHAT WE ARE LOOKING FOR?

- Sales partners in different EU countries
- Research cooperations
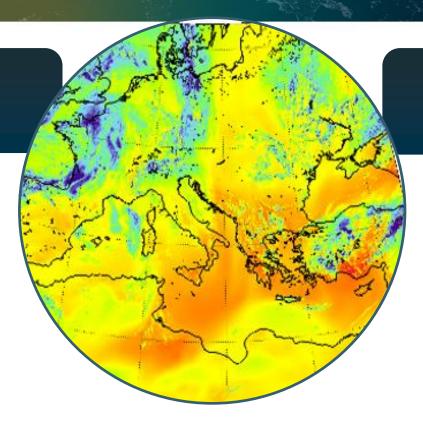- **Investors**

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USED SERVICES:

- Urban Atlas data
- Surface Albedo
- Cloud microphysics
- **New Meteosat 3rd Generation-high resolution**
- Water vapor
- Aerosol
- Total ozon column

HORIZON-project „Thinking Earth": Copernicus data uptake with AI and HPC

DATA OUTCOMES:

Short-term forecasts for solar energy
- in Wh/m2
- 0-3 hours ahead (15 min intervals)
- fast radiative transfer models

Monitoring & Forecasting
- global horizontal irradiance (GHI)
- direct normal irradiance (DNI)
- diffuse horizontal irradiance (DHI)

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