

# GRID-IN – Smarter Energy Management



## Description

GRID-IN enhances energy efficiency through low-voltage (0.4kV) grid monitoring and automatic schematic tracking using digital twins. It detects technical and non-technical losses and optimizes power flow for renewables and EV charging.

Our solution is ideal for **utility companies, kibbutzim, office buildings, hotels, and manufacturing facilities** - any organization with a **distributed power grid**. The only requirement is **power meters' data**; our platform operates solely on energy consumption profiles.

## Problem

Managing a distributed power network comes with significant challenges:

- **Unauthorized consumption** (theft, unmetered loads) leads to financial losses.
- **Cable overheating** and **weak connections** can cause dangerous failures.
- **Phase imbalance** increases energy losses and equipment wear.
- **Renewable energy integration and large consumers** (e.g., EV chargers) require careful power flow management.

## Solution

Our platform leverages smart meter data to:

- **Calculate currents and voltages** at all points in the network.
- **Detect and pinpoint** unauthorized consumption, weak connections, overheating, and faulty meters with up to **10m accuracy**.
- **Analyze consumer phase connections** and recommend phase balancing strategies.
- **Enable continuous monitoring** for early fault detection.
- **Optimize power flow management** for networks with renewables or large loads by actively controlling inverters.

## Impact

- **Lower energy losses** through precise consumption monitoring.
- **Early fault detection** to prevent costly failures.
- **Optimized network balance**, reducing stress on equipment.
- **Fewer site visits & inspections**, cutting operational costs.
- **Better integration of renewables and large loads** for improved energy efficiency.
- **Higher consumer satisfaction** due to increased service reliability.

**Send us your energy consumption profiles from the last month, and we'll calculate how much you can save!**

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