

CHAIN2GATE
ENERGY AWARE

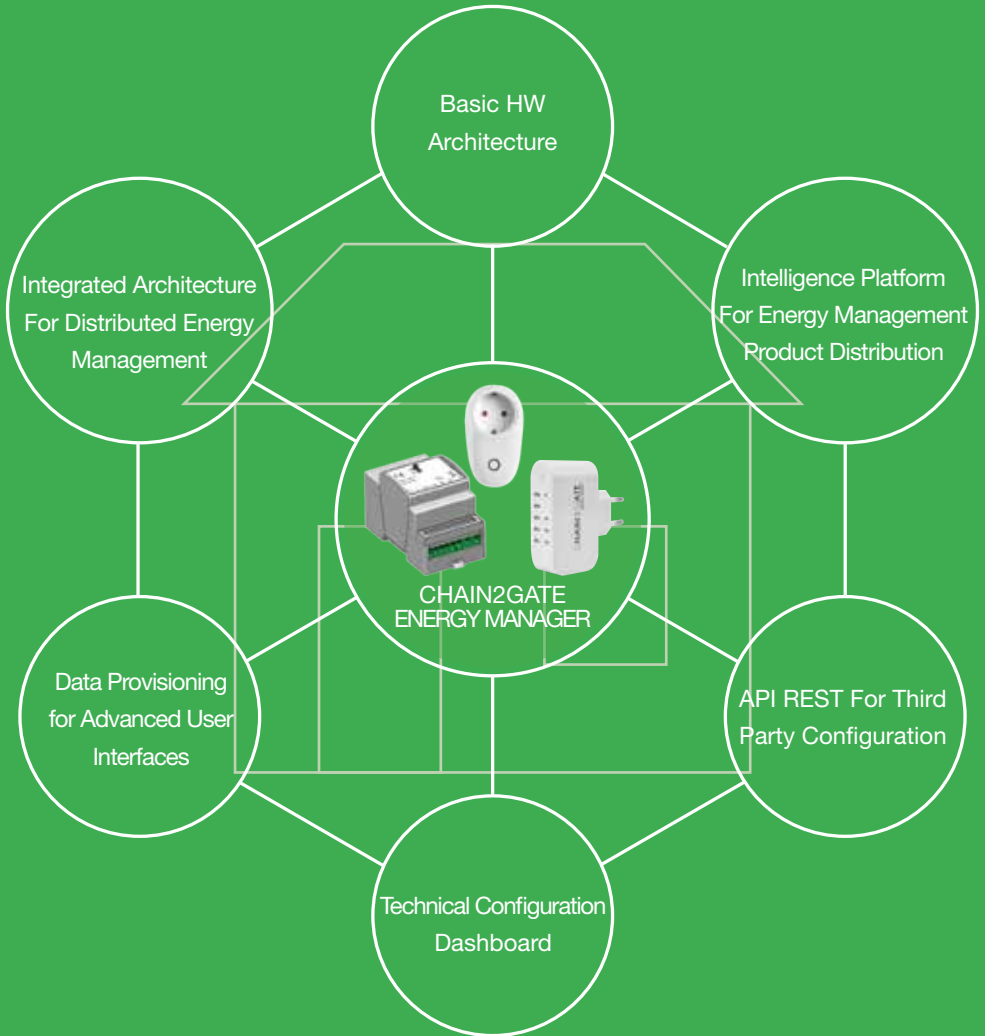
ENERGY MANAGER



ENERGY MANAGER

Plug&play, Standalone, Auto-discovery

Thanks to the Energy Manager, it is possible to know the energy footprint of your appliances quickly and easily, and in a timely manner. The solution, designed for both the residential and the corporate market, facilitates energy efficiency choices in order to save on bills and preserve well-being in buildings.



ENERGY MANAGER

Solutions

The Chain2Gate Energy Manager is an innovative solution and Chain2 native which integrates functions for monitoring energy consumption and load control. Through Chain2Gate Energy Manager, it is possible to directly manage the loads. Thanks to Chain2 technology, the Energy Manager communicates with the Open Meter and enables energy management and energy awareness services in residential and commercial settings such as Small Offices and SMEs.

OPEN METER 2G SOLUTION



Chain2Gate PLUG

+



Chain2Gate SMART PLUGs

GENERAL METER SOLUTION



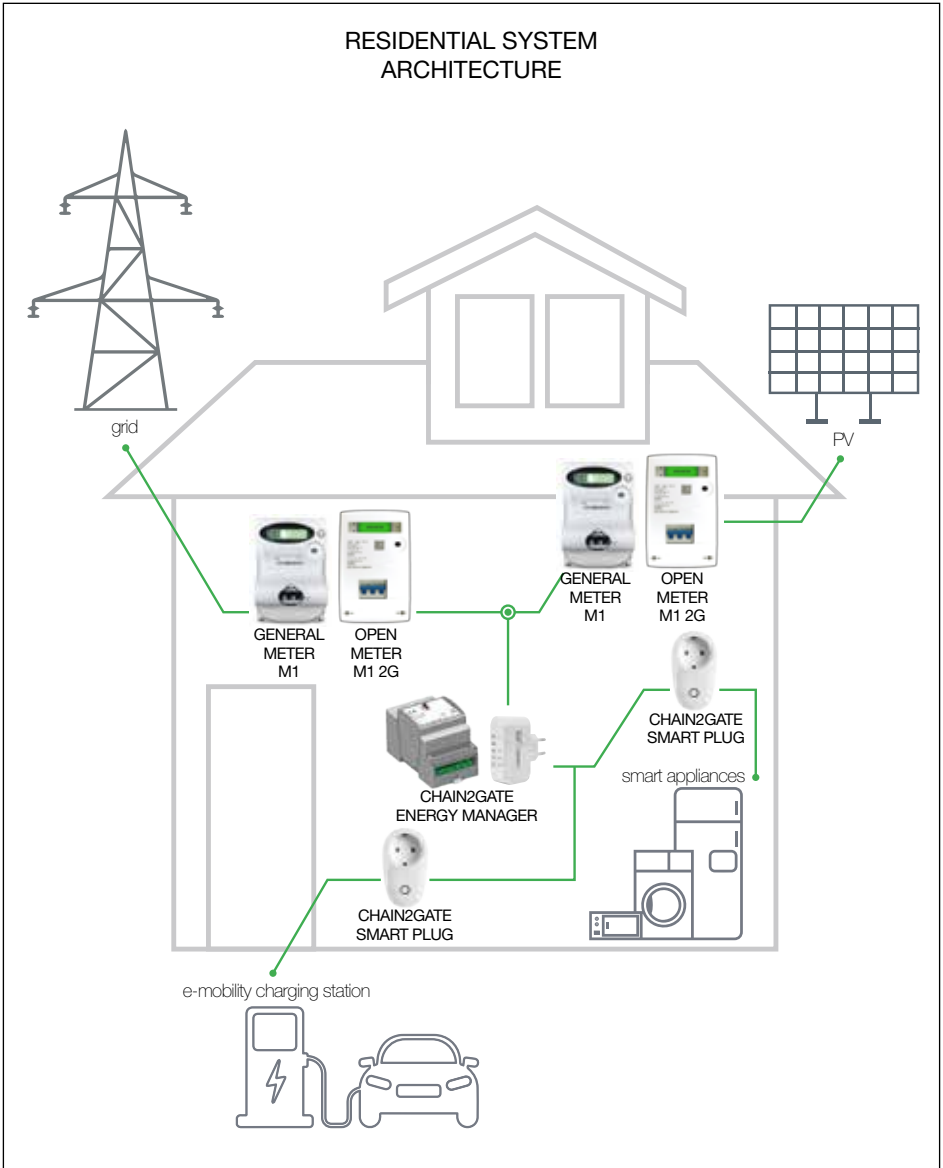
Chain2Gate ENERGY METER 1P e 3P

+



Chain2Gate SMART PLUGs

RESIDENTIAL SYSTEM ARCHITECTURE



ENERGY MANAGER

Solutions

In cases where the electrical panel is set up to control specific load lines (household appliances, lighting, and electric car charging stations for example), it is possible to adopt the following solutions for direct control of load lines and/or individual appliances via Chain2Gate SMART PLUGs.

GENERAL METER SOLUTION



Chain2Gate ENERGY METER + I/O

+

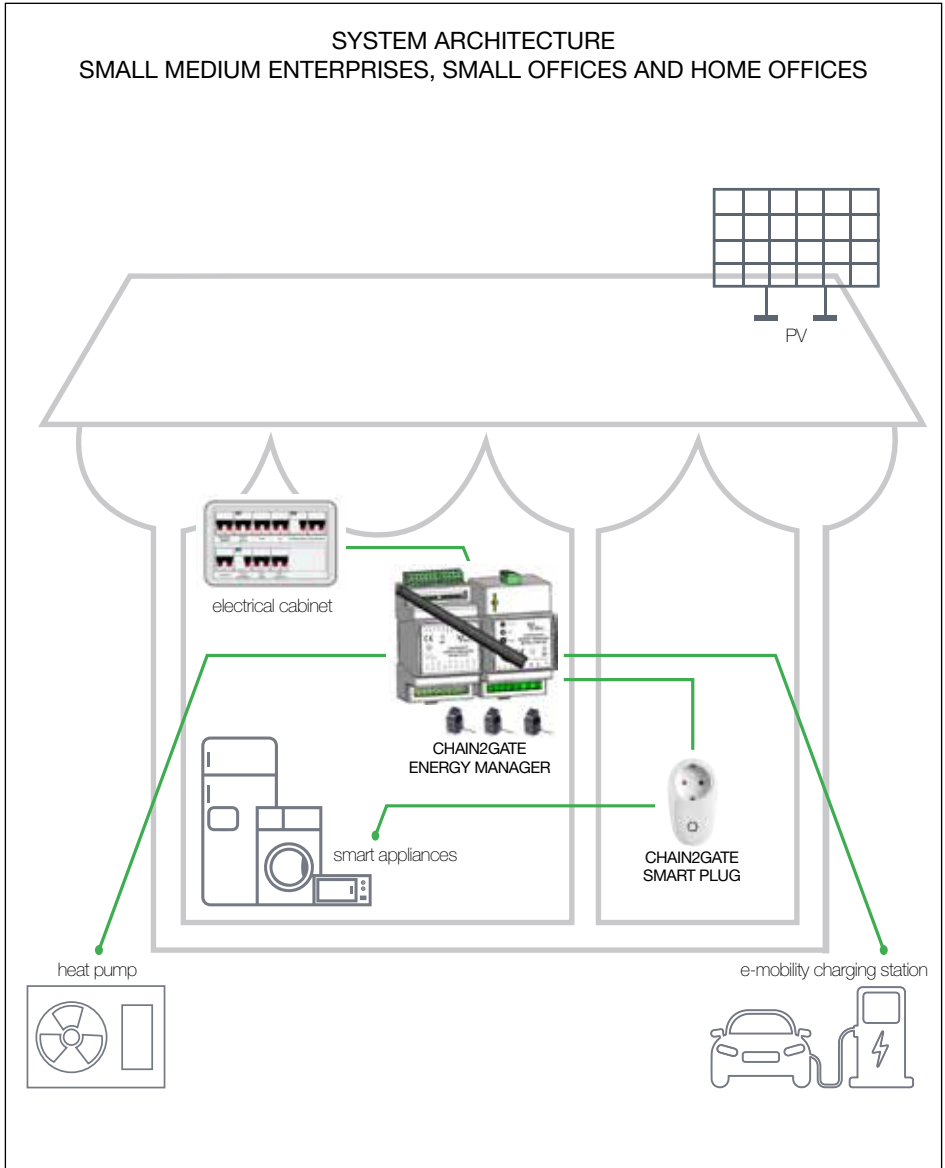


Chain2Gate SMART PLUGs



Chain2Gate PLUG
(optional)

SYSTEM ARCHITECTURE SMALL MEDIUM ENTERPRISES, SMALL OFFICES AND HOME OFFICES



ENERGY MANAGER

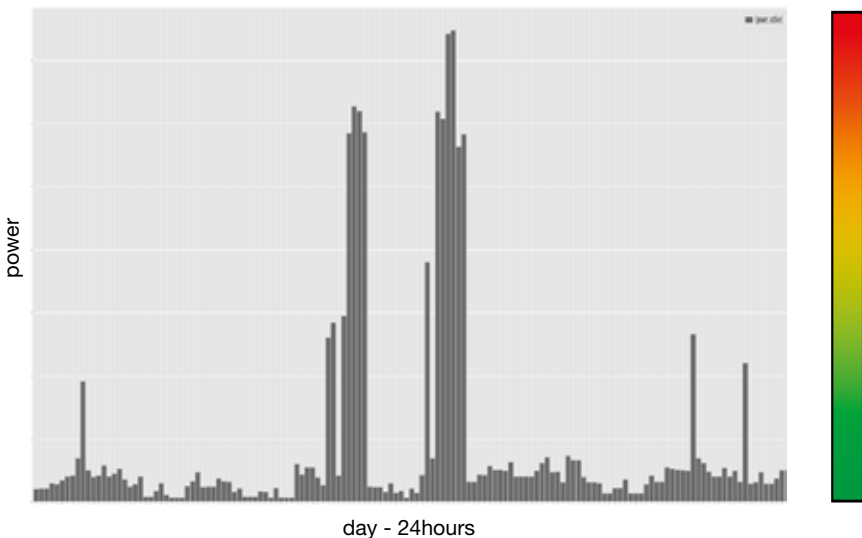
Features

WHAT ARE THE IMMEDIATE BENEFITS OF CONSCIOUSLY USING YOUR OWN ENERGY?

The awareness of consumption (collected and individual) and production:

- measuring and visualizing your own electricity;
- the ability to access reports of consumption, production, savings, etc.;
- the ability to set target thresholds for consumption and energy savings;
- the reduction of waste between from 7% to 10%.

USE-CASE: Thanks to direct communication with the 2.0 meter it is possible to detect and read the collected consumption and production data with no more than a Chain2Gate device.

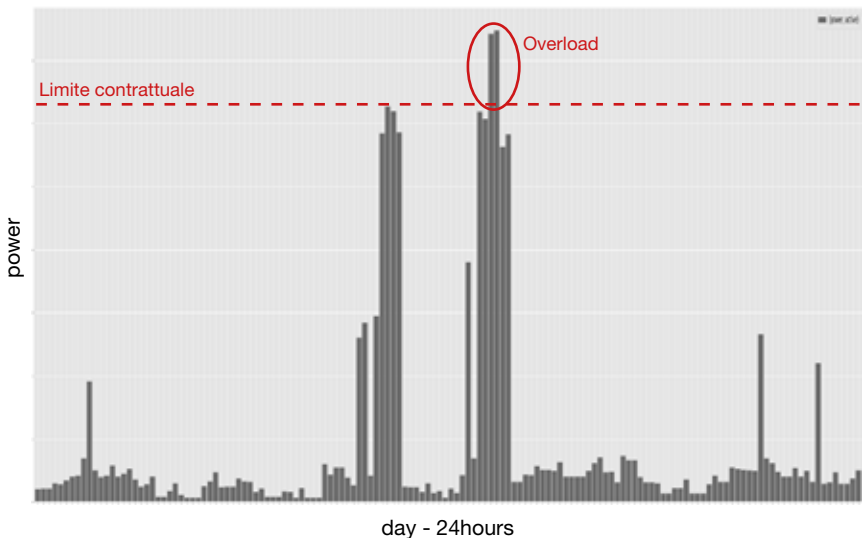


HOW CAN UNPLEASANT BLACKOUTS BE AVOIDED?

Advance notice of disconnection:

- when the available power is exceeded, the electronic meter implements a disconnection policy. The Chain2Gate Energy Manager (automatic coordinating system), enables the control of the main loads with its intelligent devices and with logical priority in order to avoid any possible power disconnection.

USE-CASE: Turning on two energy-intensive appliances at the same time. The one with the higher disconnection priority will be turned off.



ENERGY MANAGER

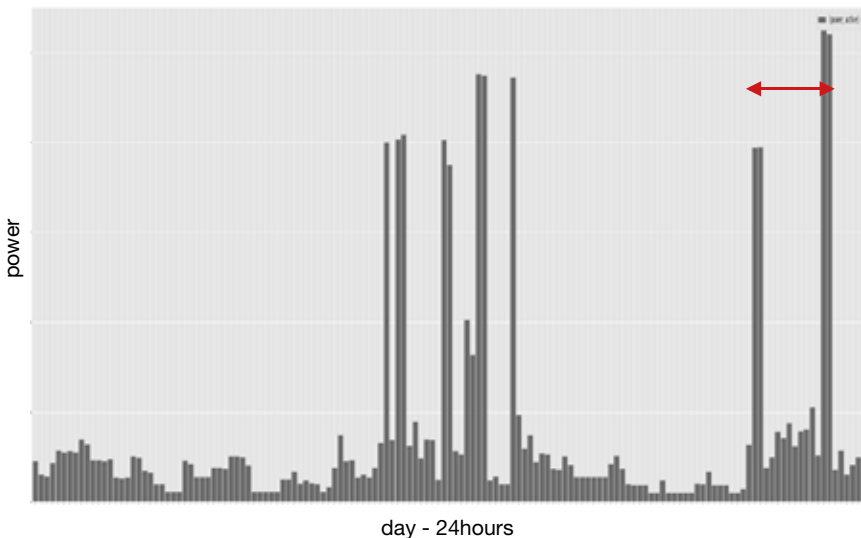
Features

HOW CAN YOUR ENERGY CONSUMPTION BECOME GREENER, MORE EFFICIENT AND MORE ECONOMICALLY CONVENIENT?

Cost reduction:

- it is possible to schedule the start-up of loads by activating them in the time slots that are most convenient as well as avoiding rush hours. In the case of Smart Meter 2G in Italy, the time slots are communicated directly through CHAIN 2;
- the customer optimizes the absorption from the network during the most economically convenient times by “shifting” its loads (Load Shifting). The priority loads (set up by the user) are activated according to the most advantageous consumption ranges given by CHAIN 2 which can then optimize absorption from the network at the most convenient times.

USE-CASE: Contract with energy supplier, with a preferred time slot (7-9 p.m.).

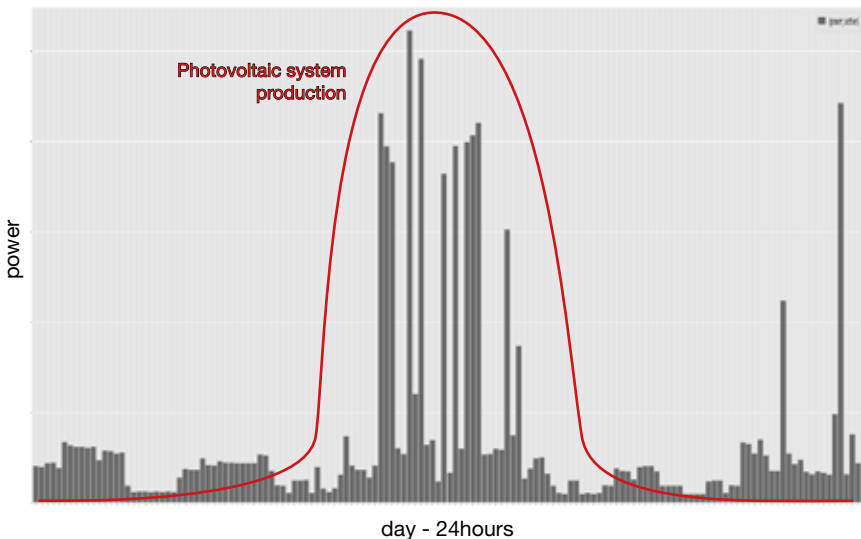


HOW CAN YOUR ENERGY CONSUMPTION BECOME GREENER, MORE EFFICIENT AND MORE ECONOMICALLY CONVENIENT?

By maximising the self-consumption of photovoltaic production:

- in the presence of local generation plants (photovoltaic, for example) and accumulation systems, it is possible to program the ignition in order to maximise self-consumption;
- in the presence of renewable energy systems, it is possible to choose the priority appliances to which a possible surplus of energy can be allocated (electric car charging stations, the boiler, the heat pump, etc.).

USE-CASE: Consumption incentives during production times.



ENERGY MANAGER

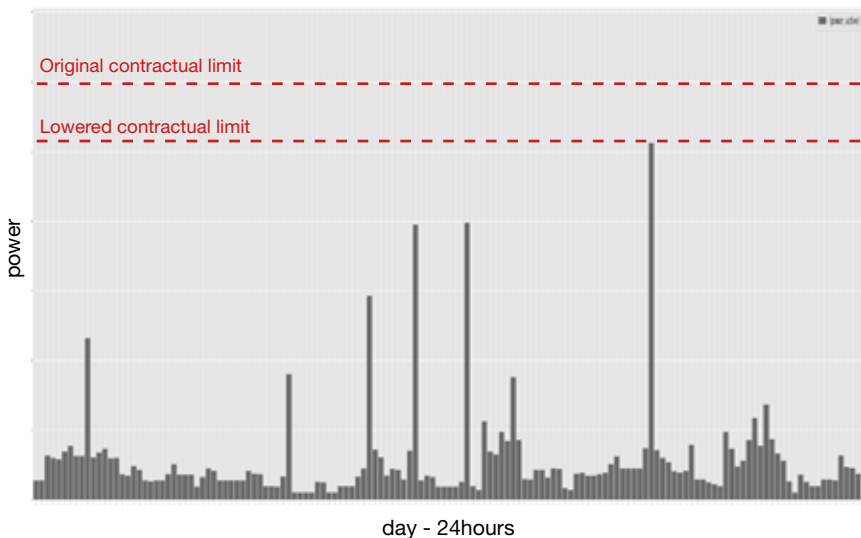
Features

HOW CAN YOUR ENERGY CONSUMPTION BECOME GREENER, MORE EFFICIENT AND MORE ECONOMICALLY CONVENIENT?

By reducing peak demand:

- making it possible to schedule the switching on of the load in order to avoid exceeding certain power thresholds, set personally by the user, imposed by the Energy Distributor for grid balancing or for peak hours aimed at reducing the global energy consumption (see European Commission instructions);
- making it possible to configure which loads are considered to be the priority in case of a power failure and in accordance with the consumption of individual loads (Peak Shaving), and maximising energy management through the automatic shifting of energy consumption by avoiding peak hours.

USE-CASE: Lowering the contractual limit.

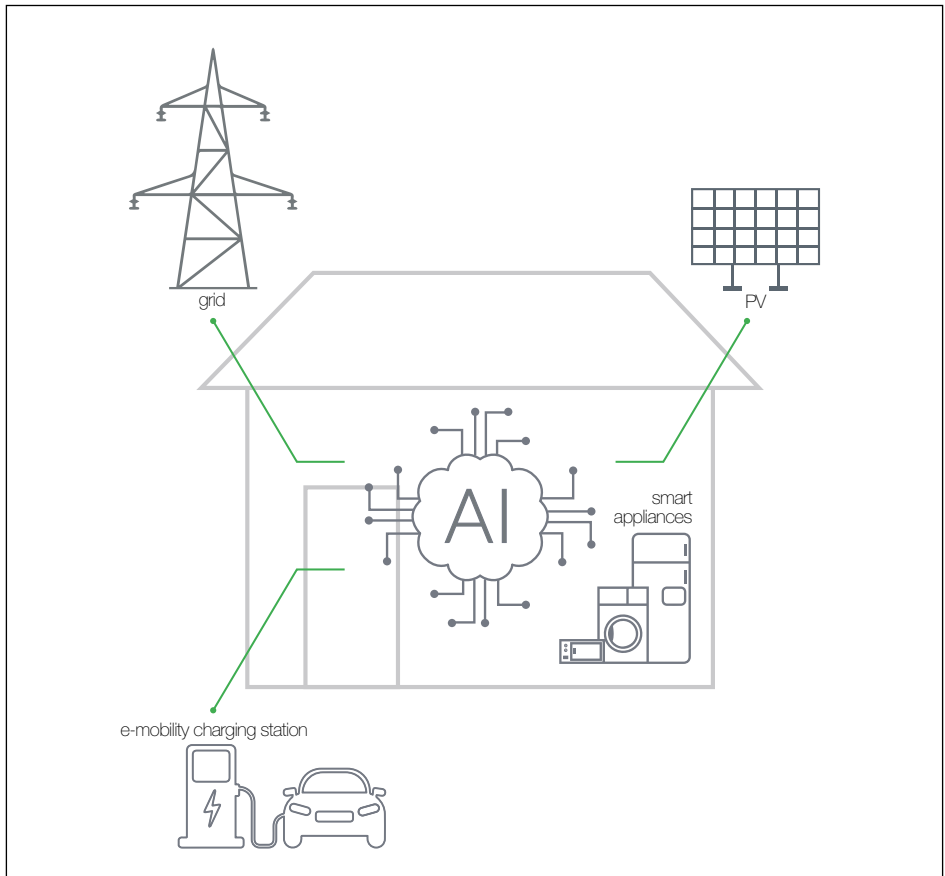


Future Development







Management policies based on Artificial Intelligence (AI)






Thanks to **Artificial Intelligence (AI)**, it is possible to implement a system that can learn the user's needs and habits for load usage.

This system will be able to manage load activations autonomously, respecting the previously described constraints.



FAMILY OF PRODUCTS

 A white, rectangular plug device with a standard two-prong electrical plug on the right side and several indicator lights and a small display on the left side. The text "CHAIN2 GATE" is printed vertically on the front.	<p>The Chain2Gate PLUG can be used by plugging it in to any electrical outlet, connecting it to the Wi-Fi network and pairing it with your own 2G meter via APP procedure, available both on Mobile and PC.</p>
 A white DIN rail mount device with a small display and several indicator lights. It has a standard DIN rail connector on the bottom.	<p>The DIN Chain2gate, which is recommended for connection directly to the switchboard to ensure that it works quickly and is always active.</p>
 A green printed circuit board (PCB) with various electronic components, including a microcontroller, capacitors, and connectors.	<p>The Chain2Gate ENGINE is proposed as an OEM solution to be inserted directly into products such as home appliances, heating appliances, inverters or electric charging stations, thereby transforming them into CHAIN2 native products.</p>
 A white DIN rail mount device with a small display and several indicator lights. It has a standard DIN rail connector on the bottom.	<p>The Chain2gate DIN LTE is able to meet the needs of long range communication in the absence of Wi-Fi communication.</p>
 A white DIN rail mount device with a small display and several indicator lights. It has a standard DIN rail connector on the bottom.	<p>The Chain2gate DIN LoRaWan can meet the needs of short range communication within an apartment building; it is recommended for connection directly to the electrical panel and it guarantees data collection that is fast and always active.</p>
 A white DIN rail mount device with a small display and several indicator lights. It has a standard DIN rail connector on the bottom.	<p>The Chain2gate ENERGY METER LoRaWan can facilitate the transport of production and consumption data to the Network Server.</p>

	<p>The SINGLE-PHASE ENERGY METER Chain2gate is for the reading of loads up to approximately 6 KW. The device integrates an energy meter, which makes it possible to receive information even in the absence of the Open Meter.</p>
	<p>The Chain2gate THREE-PHASE ENERGY METER is for reading loads up to approximately 42 KW. The device integrates an energy meter, which makes it possible to receive information even in the absence of the Open Meter.</p>
	<p>The Chain2gate ENERGY METER THREE-PHASE LTE for loads up to approximately 42 KW. The device integrates both 4G communication and an energy meter which enables it to receive information even in the absence of an Open Meter.</p>
	<p>The Chain2gate ENERGY SUPERVISOR, designed for the Street Lighting market, integrates energy consumption and installation control monitoring functions.</p> <p>This integrated solution allows the optimization of consumption and complete control through the remote connection with mobile technology.</p>
	<p>The Chain2gate CUBE integrates the functions of monitoring and visualization of energy consumption data and equipment production.</p> <p>This is the MAC product made for Renewable Energy Communities (REC): it enables every user in the community to make energy efficient and energy-saving decisions, and thus be an active part of this crucial phase of transition energy.</p>



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