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We - Florian, Stephan and Christoph - have been working on the topic of **renewable energies** for many years at the Graz University of Technology and our conclusion is: there have long been extremely promising technologies to fight climate change - but unfortunately they are still not being used enough in everyday life. For this reason, we decided to found EET and make our own contribution.

In December 2016 we ended our activities at the university and dedicated ourselves to our vision. Five months later we founded **Efficient Energy Technology** and quickly found many supporters! Our team is steadily growing, and we see every day - in conversations, articles and other reports - that independent, decentralized energy production is definitely relevant for the majority of people. We're really happy about this and are confident that together we can create a better world.

THIS IS SOLMATE®

Sol**Mate[®]** is a state-of-the-art **photovoltaic and storage system** available on the market and can be self-installed by anyone – easily and without bureaucracy.

The system consists of several photovoltaic panels and a compact storage unit. The panels are connected via cable to the storage unit, which in turn is plugged into a standard power outlet. The self-generated electricity flows through this socket directly into the in-house power grid and is made available to the entire apartment.



CORE OF INNOVATION

The storage and control system is where the innovative center of the system is hidden. Next to the battery and two inverters, it also contains our intelligent measuring technology.



The cable sockets for photovoltaic and power connections are positioned at the device's backside, making good use of the space available in the upper part of the housing. At the same time, they are successfully hidden from view.



The products' technological innovation lies within the measurement technology, called **NetDetection**. During their time at the University of Technology Graz, the EET founding team developed the technology and registered it at the European Patent Office. NetDetection allows your Sol**Mate®** to detect if and how much electricity is needed in your home – it does so through the socket it is connected to – without additional hardware in the meter box and an electrician.

Sol**Mate[®]** knows if you need electricity and when it should feed it into your home grid. If no electricity is consumed, Sol**Mate[®]** stores your green energy in the compact storage unit for later use.

Low feed-in tariffs and complicated paperwork are things of the past. With Sol**Mate®**, you benefit directly from 100 % of your generated electricity.







SUNSHINE IS ESSENTIAL - PANEL INSTALLATION

Made for every home

Choose the mounting option which suits your home best. Position your system where it gets as much sunlight as possible – the more sunlight it gets the more green electricity you produce. Just plug it in and start producing your own solar power.

Our panels can be mounted in three different ways:



Positioned on the ground

Ideal for your garden, terrace or flat roof.*

The steel brackets are perfect for placing the system on horizontal surfaces, such as your garden or terrace. They allow you to position your panels at an angle of 25 or 65 degrees, giving you the best possible orientation in summer and winter.

Mounted on the balcony railing

Ideal for balconies and fences.*

With the help of our metal balcony hooks the photovoltaic panels become your very own solar system. Simply hook them onto the aluminium frame of your panel, and your solar system also becomes a privacy screen with an extra function.





Mounting on the wall

Ideal for walls and fences.*

If you have a sunny wall or fence at home, our rails are the best choice for you. They allow you to mount your new solar system on vertical surfaces and enjoy solar energy while saving space.

Mounting on a tilted roof

Suitable for roof tiles.*





MOUNTING AND POSITIONING OF THE STORAGE UNIT





Hanging wall mount

Ideally, Sol**Mate[®]** will be mounted to an outside wall of the house and lifted off the floor so you can use your valuable balcony space for other things as well. The wall mount is then fixated with two long Screws (not included). Then you just have to mount Sol**Mate[®]** on the upper bracket at the back of the housing. Please consider the screws to be able to carry at least 30 kg each.

Standing wall mount

Sol**Mate®** can also be mounted to an outer wall of the house, with the weight supported by your balcony or patio floor. The mounting bracket on the wall prevents the system from tilting. It can either be fixed with a few short screws or glued to the wall.



Wall stand

It's also possible to position Sol**Mate®** next to the wall without any drilling or gluing. Simply place the storage unit on the floor and near the wall using the L-shaped stand configuration – the stand itself prevents tilting (fig.3.1). Then everything is fixated to your Sol**Mate®** by two screws.





Free-standing

The stand itself can be assembled and used in two different ways. If the upper part is positioned backwards Sol**Mate®** can be placed free-standing and self supporting on any level surface and where it is protected from the weather. The upper part of the pedestal is mounted to the metal frame (fig. 4.1) – then everything is fixated to your Sol**Mate®** by two screws.

GRID AND ISLAND MODE

Use the rotary switch on the side to select the operating mode. If required, Sol**Mate[®]** can be switched from "Ongrid" to "Offgrid" mode at any time - switching back and forth between the two built-in inverters (mains and stand-alone inverters).

Note that in island operation, devices with up to 1000 W can be plugged into the built-in device socket. The isolated operation is intended to ensure that the most important devices can be supplied directly in the event of a power failure.

When the rotary switch is in the 12 o'clock position, i.e. pointing upwards, the system is in mains operation. If this is at 3 o'clock, it means that Sol**Mate®** is running in island mode. At half past two your device is in standby mode.



GRID MODE (ONGRID): 800 W

If the rotary switch points upwards to the house symbol, you are in mains operation. The intelligent metering technology recognizes consumption in the household and feeds in the electricity generated based on demand. The integrated socket on the Sol**Mate**[®] can also be used for direct access to the normal household power supply during mains operation.

ISLAND MODE (OFFGRID): 1000 W

If the rotary switch points to the right on the Sol**Mate**[®] symbol, Sol**Mate**[®] is in island mode. The storage unit is electrically disconnected from the household network when switching over. Power can now be drawn from the socket on the Sol**Mate**[®]. A maximum of 1 device with protection class I (device with metal housing) may be plugged into the device socket. With additional safety devices (grounding, RCD) even a self-sufficient power grid for several devices could be set up.

WHAT DOES MY SOLMATE® DO?

Your Sol**Mate®** comes equipped with a WiFi module and conveniently delivers real-time data from your device to your smartphone. You can track and see how your home is supplied with renewable solar energy anytime and anywhere!





The **MySolMate-App** is provided free of charge and shows you the following values in real-time:

- Photovoltaic performance

- Charging status of the battery
- Fed-in electricity

You will always be able to check on these values in real-time and they are getting recorded and saved for later so you can compare them with past values. You can also control different settings, such as the minimum charging level of the battery or a minimum feed.



OUR PRODUCTS

SOL**MATE**®

Sol**Mate[®]** consists of the storage unit and two to four solid standard panels. These panels can be set up at a slight angle using a steel frame. It can also be attached to the outside wall or roof using short strips and clamps. Thanks to steel hooks for the balcony railing, this system is now also suitable for sunny balconies.



SOLMATE® Naked

Sol**Mate[®] Naked** is intended for solar pioneers who already own some solar panels. Since our storage is compatible with most common panels, you can order the storage individually and connect it to your own solar panels. This product variant should give you the opportunity to switch to a storage system with emergency power supply.

Sol**Mate[®]** is particularly suitable for solar pioneers with more space at home, for houses with gardens, garage roofs, patios, large balconies and any type of flat roof.

MOUNTING AND POSITIONING

Our solar panels are today's standard. Depending on the installation location, various mounting options are available. If you decide to use the steel frames for installation, the panels can be adjusted to two different angles (25° or 65°), depending on which side of the steel frame rests on the ground.

WHY IS SOLMATE® UNIQUE?

Sol**Mate[®]** is the innovative balcony power plant that makes it possible for everyone to generate and store their own solar power. To realize this goal, we faced one big challenge: Every household should have at least one person that can install the device successfully. Today we can proudly say that we achieved this goal, including many other advantages!

EASY INSTALLATION

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The panels are mounted facing the sun, connected to the storage unit and plugged into the socket.

No need for an installer, easy and convenient!

100% PERSONAL USE



Thanks to our patented measuring technology, low feed-in tariffs are a thing of the past.

The unused electricity is stored and can be used anytime!

ENVIRONMETALLY AND COST-FRIENDLY

Save up to 1200 kWh of electricity or up to €500 per year over your battery lifespan.

Your electricity also contains 80% fewer pollutants than the German electricity mix.

EMERGENCY SUPPLY



Even in the event of a power outage, Sol**Mate**[®] can still supply your most important devices.

If you produce your own electricity, you'll never be left in the dark!

100% COBALT FREE



Thanks to LiFePO4 technology, our Sol**Mate®** does not contain any cobalt.

Sustainable electricity with sustainable storage technology.

SOLAR POWER FOR EVERY HOME



Whether it's a house, apartment or caravan - Sol**Mate®** brings the sun into every home.

And if you move home, Sol**Mate®** just comes with you!

LIGHT**MATE**

Your ready-to-plug-in photovoltaic system for your balcony or garden is simply plugged in and supplies your home with its own, renewable electricity. Compared to Sol**Mate®**, Light**Mate** does it without a battery. This means that power is only fed in when the sun is shining. This makes our Light**Mate** even more compact and significantly cheaper.



How it works

Light**Mate** converts the energy emitted by the sun into electrical energy and feeds it into your home network. This reduces your electricity costs because your devices do not have to draw the energy they operate on from the power grid. So you use the power of the sun with each of your electrical devices and only have to pay for the power that exceeds that of Light**Mate** from the public grid. The great thing about it is: The feed-in happens completely automatically and maintenance-free, so the sun helps you save electricity every day.

The self-generated electricity goes from the solar panel via the inverters and the socket directly into your household grid, where it is available to use for your electronic devices. All this works without construction or having to hire an installer, and it looks damn good, too.



LightMate +

You can also connect two Light**Mate** and save twice as much energy! This means you can save up to 860 kWh of energy over the year.





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