



**bms best modification
systems GmbH**

www.bmsystems.at



bms

best modification system

Counselling, planning and assembly

bms best modification systems GmbH Your reliable partner for individual energy solutions.

Consulting & Planning

bms best modification systems GmbH

bms - best modification systems GmbH is an Upper Austrian, private and independent consulting, planning and development company with headquarters in Kronstorf. Specialising in storage and solar energy, the company advises and supports clients on green energy and sustainable resource use, from subsidy processing to the planning and implementation of power generation and energy storage systems.

The range includes solar collector systems and photovoltaic systems as well as high-voltage storage units suitable for industrial use. In cooperation with renowned manufacturers, bms - best modification systems GmbH offers a comprehensive package of sound know-how, individual service and high-quality solutions.

Services:

- POWER GENERATION
- POWER MANAGEMENT
- CURRENT AND ENERGY STORAGE CURRENT
- LOAD OPTIMISATION



Assembly

bms montage GmbH

bms montage GmbH, based in Mauthausen, is an expert in the implementation of customised energy solutions. The company takes care of the assembly, installation and commissioning of photovoltaic systems and solar collectors for power generation as well as energy storage systems for commercial and private use. bms montage GmbH realises projects for industry as well as for the own household.



Services:

- ASSEMBLY OF POWER GENERATION SYSTEMS
- ELECTRICITY AND ENERGY STORAGE INSTALLATION

ELECTRICITY FOR THE GRIDS OF TOMORROW

ENERGY STORAGE SYSTEMS



Get an overview of our storage systems:



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Energy storage

Anyone who deals with the topic of photovoltaics inevitably comes up against the question: What do I do with surplus energy? Because while there is usually a lot of energy available during the day, many owners of a PV system are not at home at precisely this time or do not need all the energy for commercial use. So storage solutions are needed that store energy for later use and thus make PV systems efficient and economical.

Energy storage

Our systems

With energy storage systems for photovoltaic and wind energy plants, you increase the economic efficiency of your solar or wind farm.



XELECTRIX PRO

Depending on the electricity demand, storage between 4 and <20 kWh is sufficient and common. Larger high-voltage current storage units operate with voltages of up to 500 volts and are primarily intended for use in industry.

BMS - Best Modification Systems GmbH offers independent, innovative power and energy storage systems for various applications. Contact us for a non-binding consultation!



XELECTRIX UNLIMITED M10

With falling feed-in tariffs and simultaneously rising energy prices, it makes more and more sense to install a holistic concept for self-consumption. However, the new system should definitely match the required electricity demand so that it is also economical. To ensure that the self-generated electricity is also used optimally, a uniform energy storage solution is worthwhile.



XELECTRIX UNLIMITED MX-750



XELECTRIX UNLIMITED M20



XELECTRIX UNLIMITED M40

Photovoltaik

5 FACTS YOU NEED TO KNOW ABOUT PHOTOVOLTAIC SYSTEMS

The topic of photovoltaics is attracting particularly great interest and is considered by many to be one of the most important building blocks for a sustainable energy future. Many interviewees stated that the construction of a photovoltaic system on their residential building was planned. Especially among future builders, very many are concerned with alternative energy systems.

WAITING LONGER DOES NOT PAY OFF

The „prices“ of photovoltaic systems have fallen continuously in recent years. On the one hand, this is due to the fact that manufacturing capacities have been massively expanded and the degree of automation in production has increased significantly. On the other hand, technical development has contributed to the fact that today fewer solar cells are needed per kilowatt peak, which means that the efficiency of the systems has improved.

IF YOU WANT TO BE SELF-SUFFICIENT, YOU NEED BATTERIES. BUT THEY ONLY PAY OFF MUCH LATER.

If you install an electricity storage system, you can increase your own consumption. This is because only a storage system makes it possible to use the electricity even on days with little sunshine, at night or if there should actually be a power cut.

A PV SYSTEM SHOULD BE PROPERLY DIMENSIONED

In order for a photovoltaic system to pay for itself within a few years, the primary goal should be to consume as much of the electricity generated as possible in one's own home. Because the feed-in tariff is extremely low. PV system owners therefore know from experience that they have learned one thing above all: To consume the electricity when it is being produced. For example, start the washing machine during the day instead of in the evening.

PV SYSTEMS ARE LONG-LASTING AND ACHIEVE HIGH LEVELS OF EFFICIENCY EVEN "IN OLD AGE"

A photovoltaic system is the most efficient and cost-saving system for using solar energy. Its great advantage is that it can be used practically maintenance-free with a service life of 25 years and more. One point you should be aware of, however: The service life of the entire PV system is decisively determined by the inverter.

EVEN SHADOWS CAN AFFECT PERFORMANCE

The yield and thus the economic efficiency of your system is primarily determined by the orientation of the roof or façade area in question and the solar radiation. What you should pay special attention to are shadows, for example from cables or antennas. These can result in a large reduction in power, as the solar cells are connected in series within the modules. Thus, the weakest link determines the overall performance. The influence of shading must be checked during precise planning and taken into account when placing the modules on the roof. To a certain extent, a parallel connection of the modules or the use of photovoltaic modules with optimisers is possible.

A detailed shadow analysis in advance is therefore worth money. Especially in summer, it is often difficult to imagine how low the sun is in winter and which surrounding buildings or objects can suddenly become a problem as a result. Once the system has been installed, subsequent changes can only be made with great effort.

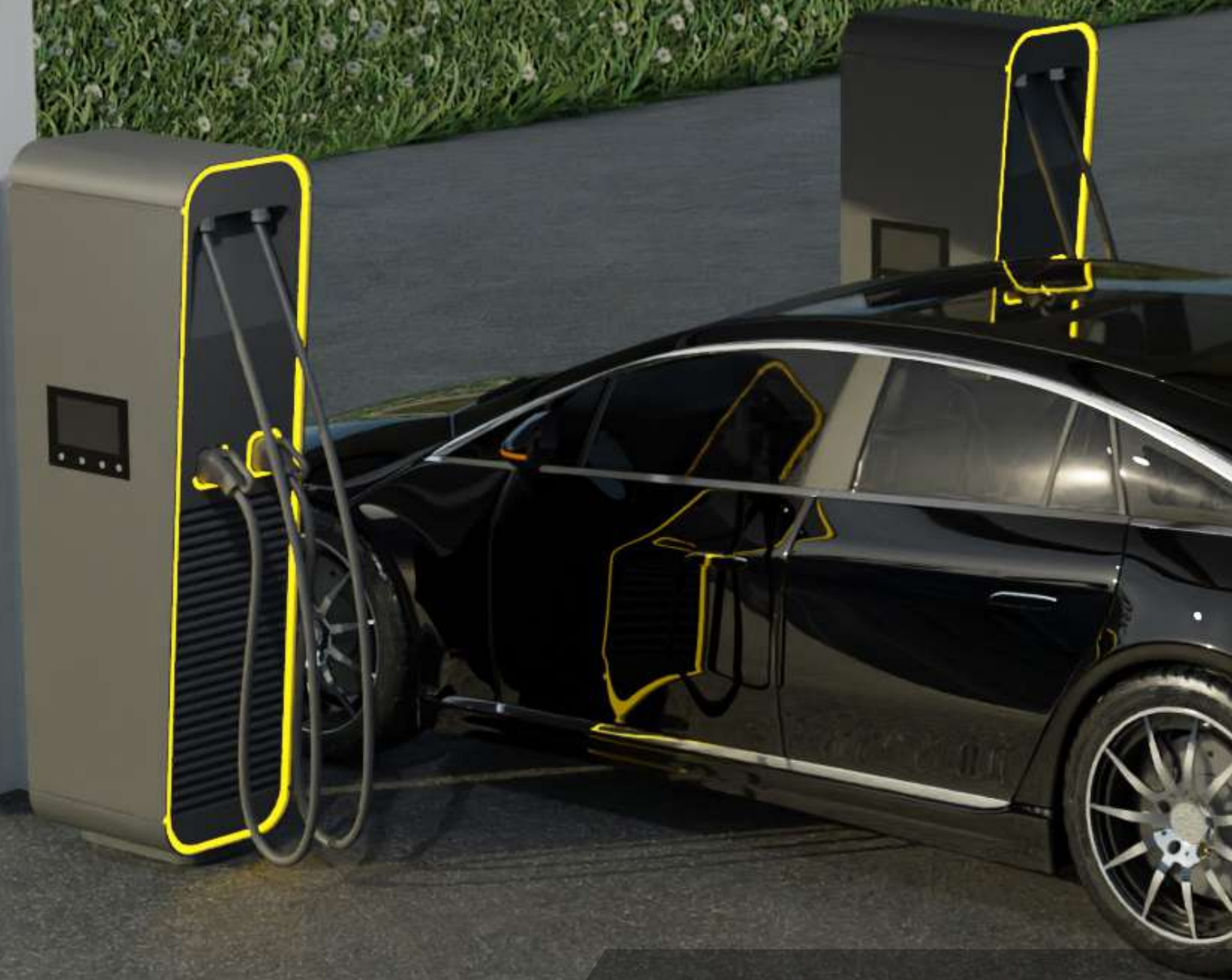


Get an overview of our
storage systems:



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Your partner For a nationwide charging infrastructure



Get an overview of our
e-mobility services:

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Electromobility

best modification systems GmbH offers both on- and off-grid energy storage systems for the operation of charging stations for electric cars.

The xelectrix Power Box is particularly suitable for this purpose, because its modular and compact design means it can be used as a stationary as well as a mobile energy storage device. The Power Box can be easily connected to a charging station, which means that no infrastructure or earthworks are required. Special plus: Vehicles can be charged even during a power outage thanks to independent power storage!

When it comes to charging stations, we work together with our partner da emobil. The range extends from Plug & Charge wallboxes to Hyperchargers with individual design options for use at home or in the company. In addition, BMS customers benefit from the advantages of the da emobil charging card, which they can use to fill up with energy at more than 190 charging points in the company's own network as well as at partner stations.

The Charging

With the da charging card, you can easily charge your electric vehicle in da's own network at currently over 190 charging points. Including our partner stations and roaming partners, there are already over 1000 charging points.

The da charge card is free of charge, with no ties or hidden fees. In addition, you can use everything related to charging with just one card: Loading, refuelling, shopping and washing. A changeover from an existing GUTMANN fuel card is also possible at any time.



Charging station infrastructure



HYPERCHARGER 50 KW (DC)



HYPERCHARGER UP TO 150 KW (DC)



HYPERCHARGER UP TO 300 KW (DC)



Building optimisation through **EMS**

www.bmsystems.at

Communication system

Energy management system bms

EMS bms is your all-in-one tool for modern energy and load management using machine learning. The technology or algorithm, developed over several years together with top engineers and perfected in practice, enables you to use energy resources efficiently and optimally. It also paves the way for your company or your building to a sustainable and responsible future.

Whether monitoring or active control of your energy consumption in real time, intelligent load management, the integration of renewable energy sources such as photovoltaics or charging infrastructure for e-mobility, or intelligent heating and cooling, you can be sure that you have the right solution

- EMS bms is the market leader in the energy management sector by means of a sophisticated machine learning model, supports you in decarbonisation and brings significant savings in your energy costs.

Rising CO₂ emissions worldwide

Global energy demand will continue to grow in the coming years, led by emerging and developing countries - where demand for fossil fuels will remain high. It is therefore all the more important and essential that we live up to our role as pioneers and actively work to reduce CO₂ emissions.

Increasing energy consumption

According to the European Union, households are responsible for 26.1% of current energy consumption, just behind transport (30.5%) and still just ahead of industry (25.8%). In the future, energy demand will continue to rise in all sectors. Here, too, it is important to optimise the increasing demand and to focus on alternative energy generation.

Global warming

In recent years, global temperatures have consistently been among the warmest since records began. An increase can also be expected for the next decades. A constant change and increase in temperatures can only be slowed down or prevented by proactive energy management.

Get an overview of
EMS bms:

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EMS

Building optimisation

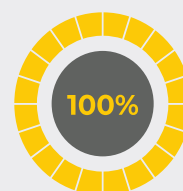
The operating system for the energy-optimised building of the future. With individual and customised solutions for your building, energy costs can be significantly reduced.



UP TO
15%
ENERGY SAVING
HEATING & COOLING



UP TO
30%
OWN CONSUMPTION
OPTIMISATION



ALWAYS
100%
PHOTOVOLTAICS
PERFORMANCE

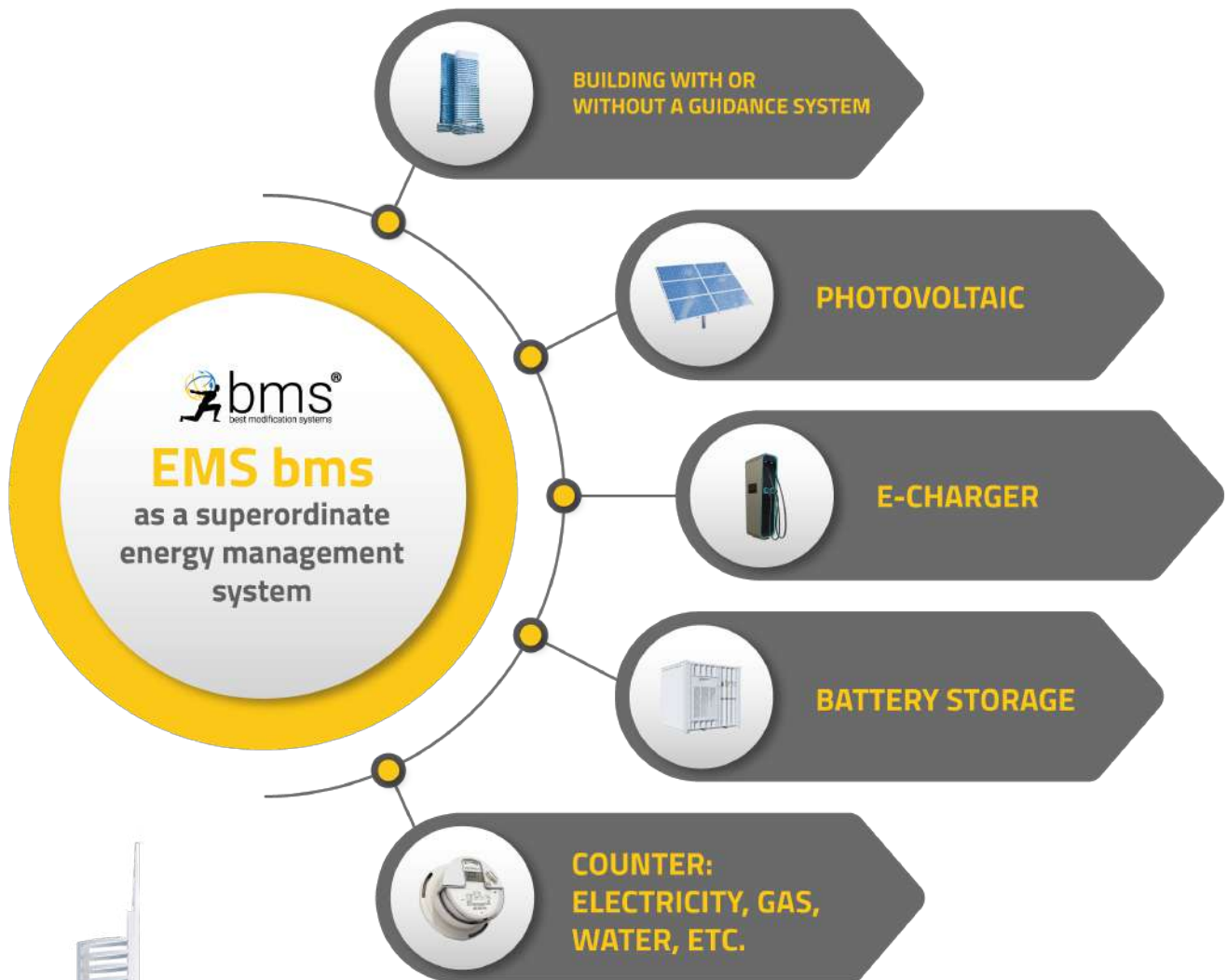
Thanks to our heating & cooling circuit optimisation algorithm, EMS bms is able to reduce heating costs by up to 15%. This is achieved by taking into account the current and future weather and temperature. Machine learning is used to learn the building's behaviour, which is then incorporated into the optimisation process.

One of the goals of EMS bms is to optimise electricity consumption in buildings thanks to our algorithms and machine learning. With our energy management system, we can intelligently control and thus reduce the flow of electricity. The EMS bms system uses machine learning to monitor, control and optimise power, power generation or power transmission.

Get the most out of your photovoltaic system thanks to machine learning. With the help of this clear display, irregularities in your photovoltaic system are visualised in real time. An example of this is a dirty photovoltaic system that no longer delivers its full output. EMS PV monitoring gives you the opportunity to keep your photovoltaic system as efficient as possible.

EMS as a superordinate energy management system

EMS bms connects the systems that are usually not yet connected to each other. Only by intelligently connecting all producers and consumers, as well as active components and meters, can efficiency-increasing and profitable measures be realised.



Get an overview of EMS bms:

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The digitalisation of the future...

The intuitive dashboard of EMS bms gives you the maximum overview of your infrastructure at all times. All projects are presented transparently. E-mobility infrastructure, heating systems, cooling systems or everything combined. If you optimise several projects at different locations with EMS bms, you can keep an eye on them with the simple map display.

Dashboard Flexibility

The access options are as flexible as our everyday lives. Both classic web access and an app for use on mobile devices are available.

All In

Here you can find all your projects in one place, whether web or app. You have all the important information available at the touch of a button.

Mobile Application

The mobile application means that you are not tied to a particular location and can access your systems at any time. Our EMS bms App & Web solutions are characterised by simple and secure handling, maximum flexibility and a perfect user experience.



Available in the App Store
and Google Play Store:



Photovoltaics Monitoring

With the help of this clear display, irregularities in your photovoltaic system are visualised in real time. An example of this is a dirty photovoltaic system that no longer delivers full power. EMS photovoltaic monitoring gives you the opportunity to keep your photovoltaic system as efficient as possible. With this service, a prediction can be made based on the current PV output as to how many KWh the photovoltaic system will produce in the next 24 hours.



AI/ML Library



In the EMS AI / ML Library you will find all AI & ML modules, which are permanently extended with additional functions.

Currently available:

- Live anomaly detection
- Historical anomaly detection
- Heating circuit optimisation
- Photovoltaic production service
- Consumption service
- Photovoltaic monitoring service
- EfficientIO-EMS

...starts with the right
energy management system

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EMS bms:

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POWERCON

**UPDATE.
CONNECT.
ENERGY.**

Mobile plug & play solution for a CO2 neutral future.



BMS POWERCON

TECHNICAL INFORMATION

Power	75 kWp per 20 foot container
Consisting of	200 solar panels with 60 kVA inverter fully wired and a ready-to-connect AC cabinet
Gewicht	12,5 Tons
Operating temperature	-20° C to +60° C
Total mounting time	Approx. 1/2 day with a team of 4 people
Rated output current	3 x 230/400 VAC, 86.7 A
Max. Output current	3 x 230/400 VAC, 95.3 A
Communication protocol	Data interface: Modbus // Interface: RS 485, webconnect
Dimensions open	L x W x H - 90m x 6m x 1m (container height 2.6m)
Dimensions closed	L x W x H - 6.1m x 2.4m x 2.6m (dimensions 20'container)
Max. Slope Mounting surface	<0.6% no levelling necessary
Transport	20 foot standard container with truck, ship and rail
Consistent	Durability tested under extreme conditions
Alignment	Any orientation possible
Module Tilt angle	15°
Frame Material	Hot-dip galvanised steel (ISO 1461 standard)



MOBIL



ECONOMICAL



PLUG & PLAY



SCALABLE



ROBUST





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bms Website

Everything at a glance



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our services and
the online shop:

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bms

Always up to date and well informed

best modification systems GmbH offers you a wide range of energy storage systems, photovoltaic systems & e-mobility.

You can find detailed information and an overview of offers on our website: www.bmsystems.at

With lots of exciting information, our website offers you all kinds of interesting facts about modern energy and electricity management, sophisticated solar systems and environmentally friendly electricity storage. From the most common application areas for private and business customers to facts and figures on photovoltaic solutions, the website gives you a first insight into the world of customised storage and solar energy. Did you know, for example, what role photovoltaics plays in achieving the climate targets? And to what extent shadows can influence the performance of your plant? You can find out all this and more at bmsystems.at.

For more in-depth information on the individual topics, individual concerns and personal advice, our dedicated team of experts is of course available to you as usual. You can also use the contact form to write to us directly and arrange a consultation.

bms Onlineshop

In our online shop you will find all our products at a glance. From consulting for large or medium sized companies to our Xelectrix systems in all model variants. At <https://www.bmsystems.at/shop/> you will find all the information on the respective products. In addition, you have the possibility to compare the individual models of the systems at a glance in order to make the best choice for your requirements. Feel free to drop by and browse through our selection!





AIRBOTIX AUSTRIA

by best modification systems GmbH

In the meantime, our drones are flying missions for the inspection of bridges, noise protection facilities, solar installations, power lines and wind turbines, for the condition assessment of forestry and agricultural areas and for the planning, documentation and surveying of construction sites, ballast works and power plants.

Buildings and structures

With unmanned aerial vehicles, damage and changes to buildings are documented seamlessly and in high resolution, thus enabling early damage detection. Thermal imaging cameras can be used to collect additional information and, for example, to create energy performance certificates.

Industrial solution

Classical inspection methods by, for example, industrial climbers or scaffolders are usually very time-consuming and cost-intensive. Moreover, this is almost always associated with an increased personal risk. In contrast, assessment by drones allows large areas to be inspected quickly and efficiently in high resolution and in detail and to identify possible structural damage. We document without putting staff in critical situations.

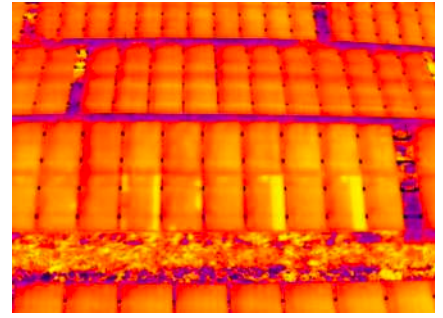
Structural

Especially in industry, regular maintenance is essential for production flow and safety. In the best case, potential damage is detected before it occurs. At the very least, however, expensive production downtimes can be avoided if damage is detected at an early stage.

Airbotix Austria

Service portfolio

Airbotix Austria covers a wide range of services from damage inspections of buildings to multi-spectral analysis in agriculture and forestry.



Functional testing of photovoltaic systems



Buildings & Structures



Industry solutions



Structural damage



Damage inspection



Photovoltaics



Overhead lines



Wind turbines



Surveying & Photogrammetry



Multispectral analysis

Get an overview of our Airbotix services:

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Drones in the energy industry



INSPECTION



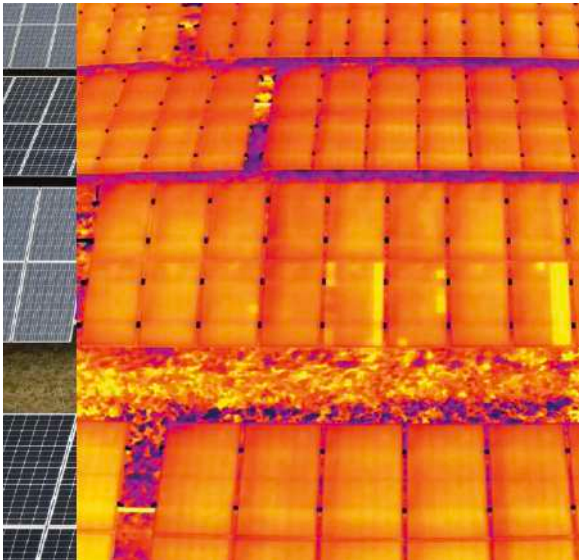
FILM & PHOTOGRAPHY



SURVEYING



THERMAL IMAGING



Functional testing of photovoltaic systems with the use of drones

Today, photovoltaic systems are an integral part of energy generation. The flawless functioning of the individual panels right down to the individual cells is essential.

In addition to a visual inspection, an inspection by means of a thermal imaging sensor is always useful, as this can detect damage that would remain undetected by the naked eye.

An inspection by drone and thermal imaging is particularly useful after construction or natural hazards such as hail, in order to make warranty or insurance claims and to ensure optimal performance.

Useful inspection of solar power plants and single family homes

Regardless of the size of your system, regular inspection is an important measure to prevent malfunctions and production losses.

Even the smallest damage can lead to an undetected reduction in performance of up to 30%. Depending on the equipment and dimensions, this can mean financial damage in the 4-digit range, even for a single-family house.

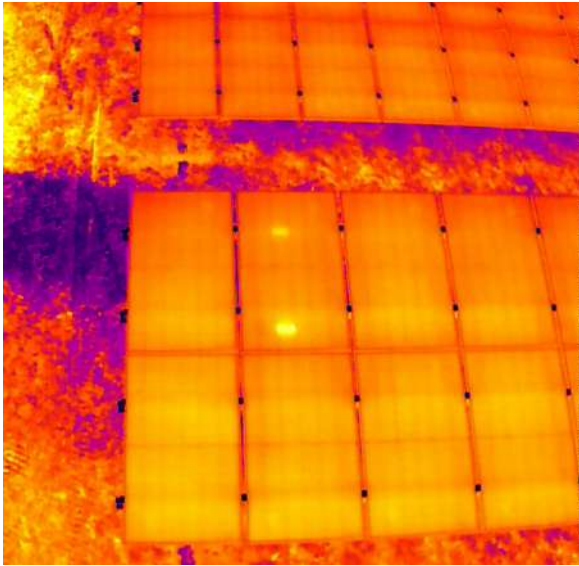
For larger systems, such as solar power plants, the comprehensive inspection is a time-consuming process. In this case, inspection by drone is particularly suitable, as it offers not only an optimal perspective but also the possibility of flying over large areas in a short time and the damage can be integrated to be documented in a comprehensible manner.



Get an overview of our Airbotix services:

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Selbst kleinste Schäden mit Wärmebild aufspüren

Even the failure of a single cell can significantly reduce the amount of energy gained and means an ever-increasing loss if this is not recognised in time.

The inspection by thermal imaging cameras by means of a drone is the suitable means to carry out the inspection quickly and without disturbing the operation. Even the absolute temperature values of individual cells can be precisely checked by us from the air, so that you do not suffer any loss of efficiency.

When it comes to the maintenance of your plant, you can always rely on the experience and innovative strength of DRONE-TECH!

Project planning and 3D modeling



Photogrammetry and 3D models are an optimal tool in modern project planning. The data obtained can be collected quickly and used in a variety of ways. In this way, we ensure that you can manage your project in a time- and cost-efficient manner. The 3D models created can not only be used for presentation and marketing, but also provide you with reliable data on areas, volumes and terrain thanks to high accuracy in the centimetre range. This gives you an overview of your project both during the planning and construction phase and after completion. The collected data can also be directly imported into CAD programs over a large area.



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