“eFactory” Solutions

Energy Storage Solutions for industrial applications

eFactory is a turn-key Energy Storage Solution, developed for the industrial applications.

eFactory protects your business from power failures that often result in equipment damages, loss of raw material, loss of productivity & lower production quality.

Factories equipped with E24 eFactory solutions will benefit from 24/7 uninterruptible stable electricity while integrating solar energy and other sources in order to reduce overall energy costs.

S330E

E24™
BRIDGING THE ENERGY GAP


“Finally, I can rely on E24 to guaranty that my factory will never see a power cut again.”

Why eFactory?

With the exponential demographic growth and economical expansion of the planet, the growing use of electricity across all sectors, the time and resources required to upgrade the grid power capacity and the deployment of decentralized renewable energy, it is becoming harder for utilities to stabilize the availability of energy on the grid. This is creating a number of issues on both the power generation and consumption side:

On the power generation side and to react to this instability, utilities are resorting to financial measures to either encourage or discourage consumption at given times of the day in order to attempt to keep consumption on the grid as steady as possible. These measures include Time of Use billing (TOU), Capacity billing, and Low Power Factor Surcharges (LPFS). Other measures include the substantial decrease in renewable feed in tariffs in some areas / countries making on-grid renewable energy generation gradually less profitable.

Power demand has outgrown supply in such a large proportion that utilities are sometimes unable to avoid blackouts resulting from grid overloads. In some countries the gap between supply and demand has grown so wide, that utilities are forced to ration the availability of power through regular blackouts.

On the consumer side, the Time of Use billing (TOU), capacity billing and gradual decrease in feed-in tariffs are making the energy bill grow higher even for those who have invested in on-grid PV and / or wind energy.

In countries where power is rationed (less than 24 hours of power per day), consumers are resorting to diesel generators that result in the following disadvantages:

- Very high cost of energy and operational costs
- Air and Noise Pollution
- Special Space Required that may not be available
- Repetitive Refuelling
- Regular Maintenance

E24 technology allows factories to minimize their overall energy costs through the correction of the power factor, avoiding demand charges, and potentially integrate renewable energy sources. For factories operating in areas of no grid or weak grid, eFactory retrofits any existing energy system, in a manner to integrate renewable sources and minimize operation on diesel generators through the use of advance energy management and energy storage technology. Of course, eFactory also improves power quality and substantially reduce operating costs and environment pollution.



Avoiding Diesel Generators

Operation on diesel generators should be minimized for the following reasons:

1) Adverse effects on the environment:

Toxic Green House Gases (GHG) emissions contributing to global warming, ocean acidification, changes to plant growth and nutrition levels, smog, and ozone layer depletion.

2) Adverse effects on the health:

Toxic smokes rich in CO, CO2, NO2, NO3 and micro- particles having a direct adverse effect on the respiratory system often resulting in cancer.

3) Noisy

Irritating audible noise resulting from the engine side which increases stress to your staff and neighbors.

4) Possible litigation with neighbors

Generators smoke, smell and sound may disturb your neighbors and result in expensive legal disputes.

5) High operational costs

Generators must be loaded with a minimum load of 15-20% of their maximum power capacity in order to avoid damages to the engine. While doing that, factories consume a large quantity of fuel just for ensuring availability of electric power. Under high load, generators consume even more diesel resulting in a very high cost per KWh whether on low load or high load which may adversaly affect your business profitability.

6) High maintenance

Diesel generators require regular oil and filter change in addition to regular repairs. Factories have to resort to full time or part time engineers to perform these tasks which further increases energy costs

7) High depreciation costs

Diesel generators have a 10,000 hours operating time before overhauling is needed. Business often ignore the depreciation costs which are to be added to the diesel and operation/maintenance costs in order to replace the generator when it reaches end-of-life.

8) Diesel Generators cannot operate 24/7

Diesel generators cannot run 24/7 without stop. If your business requires 24/7 power availability it is necessary to own 2 generators that would each operate half the time in order to allow for maintenance time and allow the generators to cool down. This of course further increases the energy bill.

eFactory Solution: A New Concept

Whether your factory operates in an area of 24/7 power availability or in areas of power cuts or even in areas of no power at all, eFactory solves the problem:

Factories operating in areas of 24/7 power availability:

eFactory may be installed with a small battery that is used as an energy buffer allowing you to integrate solar energy in a manner to minimize the use of utility power supply especially during peak tariff times in a manner to substantially lower your utility bill.

Factories operating in areas of intermittent power or no power.

Whether the utility is available or during a power cut your factory will always draw its power from the eFactory energy storage system. This allows the load to be always fed with clean stable uninterrupted power. Your generator (if connected) will not start until your batteries are low or when your load exceeds a preset agreed level. In this manner you avoid starting your generator avoiding diesel costs, pollution and the frequent generator maintenance. If available, your generator remains a last resort power source that starts for a few hours and shuts down automatically..

Further benefits include:

1) eFactory Regulates Both Voltage and Frequency:

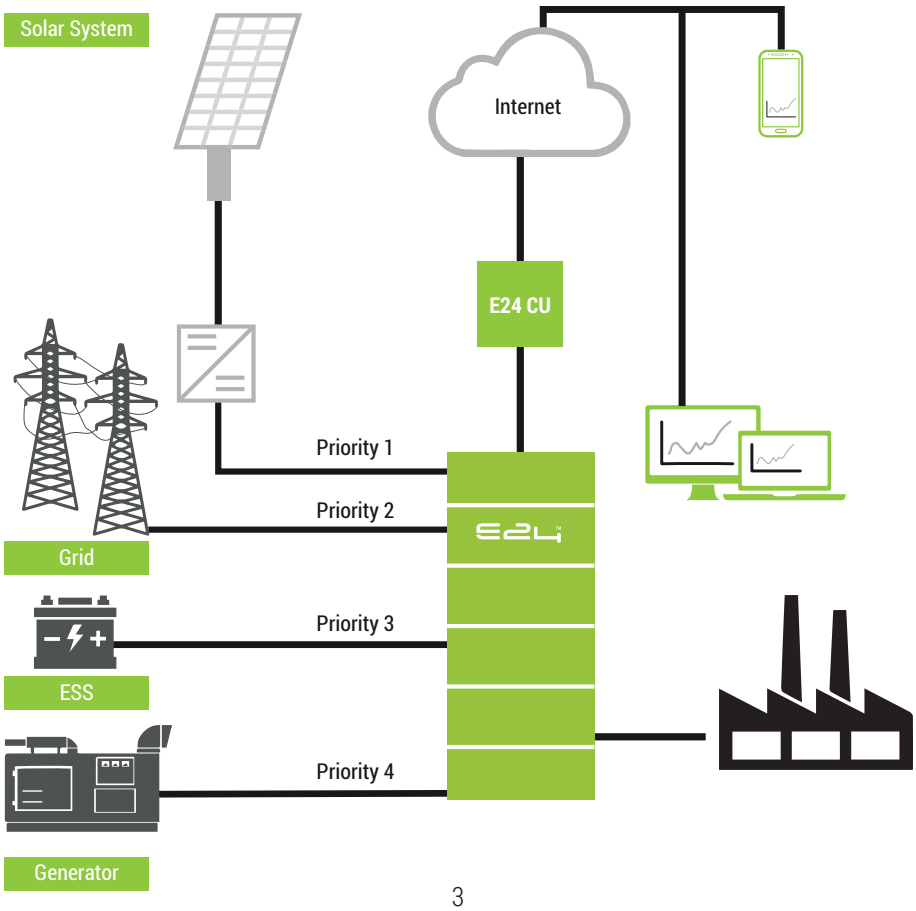
   eFactory regulates the input voltage when available from 154Vac to 280Vac while keeping the load at a 220Vac sharp. Similarly, frequency is stabilized to 50Hz sharp from a range of 45Hz to 55Hz.

2) No Power Interruption During Blackouts:

   Whether the utility is available or during a power cut, your factory will always draw its power from the eFactory solution. This allows the load to be always fed with clean stable uninterrupted power. Your generator (if connected) will not start until your batteries are low or when your load exceeds a preset agreed level. In this manner you avoid burning diesel, pollution and the cumbersome of frequent generator maintenance. If available, your generator remains a last resort power source, that the eFactory system will start automatically whenever needed.

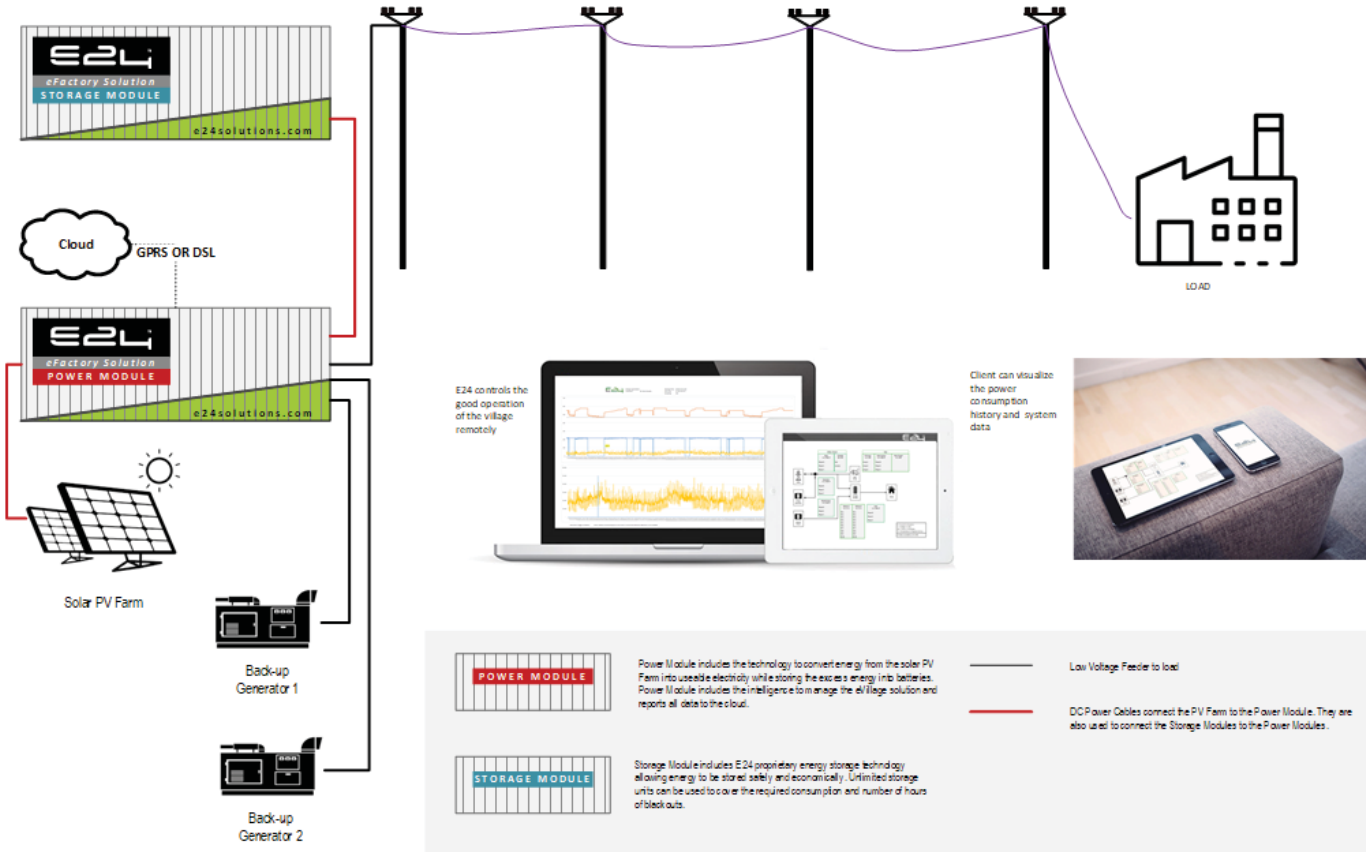
3) Can retrofit existing Solar or Wind equipment.

   eFactory is compatible with your existing solar PV panels and can easily be retrofitted to your existing installation. If not already available E24 can of course provide adapted turnkey solar solutions compatible with eFactory.



Mobile Option

eFactory may be supplied in a containerized solution allowing you to avoid using your existing factory space. This further adds the befit of being able to easily transport your eFactory system to another site should you decide to move your factory to another area.



eFactory Key Benefits

eFactory is specifically designed for markets or areas where input power is particularly unstable and intermittent. eFactory can be connected to solar panels when available allowing you to store energy from the sun or the utility and use it later when needed. Key benefits are:

- Lower cost operation that diesel generators
- Static system requiring no maintenance
- Wide Input voltage (180Vac to 280Vac).
- Wide Input Frequency (40 to 70Hz).
- Built-in energy management system to automatically operate a generator in a manner to ensure 24/7 power while minimizing diesel and maintenance
- Dynamically grows with your energy needs
- Noise Free
- Pollution Free
- Maintenance Free
- Unattended operation
- Can retrofit any existing solar PV array
- Mobile (Optional)

Key Competitive Advantages

- Rugged & Reliable:

  E24 started designing energy storage Solutions since 2011. eFactory Series is built with the highest quality and are designed with large safety margins to operate within the harshest environments.

- Resilience:

  eFactory Series is conceived in a manner to bypass itself in case of a failure in order to avoid to disconnecting the utility supply.

- Modular & Upgreadable:

  eFactory is completely modular allowing you to upgrade power capacity, runtime & size of a solar array.

- Plug and Play:

  E24 technology is supplied in prepackaged boxes allowing a systematic assembly without using any external components.

- Advance Monitoring:

  eFactory includes a cloud connection to allow all stake holders: factory executives, local O&M team and E24 to monitor the good operation of the system remotely.

Advanced Cloud Monitoring

eFactory includes a cloud connection to allow all stake holders: factory executives, local O&M team and E24 to monitor the good operation of the system remotely.

E24 Quality Pledge

E24 technicians commissioning a new system.

E24 started designing energy storage solutions since 2011. E24 accumulated a substantial experience across diverse market segments giving it a clear market edge, experience and leadership.

E24 designs, engineers, manufactures, assembles, tests and delivers its solutions in modular components that are easy and cost-effective to assemble on customer's premises.

E24 commissions its solutions through a network of affiliates or business partners under strict quality standards and procedures to ensure the highest optimal performance and customer's satisfaction.
E24 continuously invests in R&D and develops its own proprietary technology. Each part of the energy solution supplied is optimized to bring the highest customer value.

All solutions are designed to bring a fast and headache-less capital recovery and high return on investment.

After Sales Service

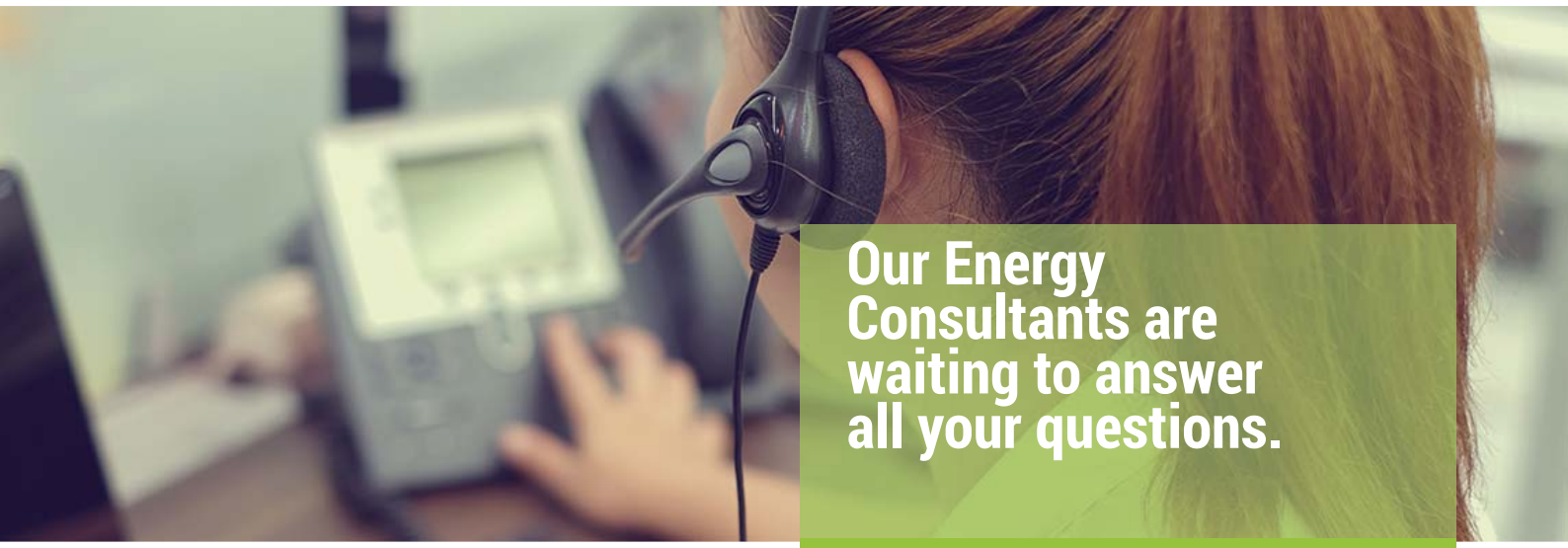
E24 provides solutions that meet and exceed customer expectations for performance, reliability and availability. E24's comprehensive service offerings ensure that when you need support, E24 is available and at a phone call or click away. With support centers and knowledgeable personnel, E24 brings an uncompromising commitment to customer satisfaction by providing:

- Comprehensive maintenance programs
- Field service
- Solutions upgrades
- Refurbishments
- E24's certified parts

This commitment ensures customers' maximum productivity, extending equipment life cycle while reducing operating costs.

E24's foundation is its people, and its culture is one where individual contributions are valued and safety is emphasized in all aspects of the business. Quality, Health, Safety and Environmental programs enable E24's employees and customers to comply with their safety system requirements, ensuring no harm to people, assets and the environment. E24 is also comprised of a diverse, dedicated and multitalented workforce working as a team committed to the common goal of delivering complete customer satisfaction. Another valuable member of this team is a group of trusted suppliers, working as business allies to form a supply chain that enhances the quality of E24's products and services. We work closely with our clients to look at all aspects of their energy related costs.

This includes, how the production process utilizes the energy, what opportunities there may be for improvements, what are the operation and maintenance costs, and what are the potential opportunities to lower overall costs. We perform energy analysis for our clients to assist them in making the optimal decisions on how to reduce their energy use and costs through the use of our solutions.



Energy Storage Solutions

eHome

eVilla

eBuilding

eBusiness

eGrid

eVillage

eTelecom

eGrid

Energy Generation Solutions

eSolar

eHybrid

eParking

eAgri

E24 Comprehensive Energy Solutions Offering

While we all agree, solar energy must gradually replace fossil fuel, each one of us has specific needs and applications that must be catered for. E24 has researched extensively different market segments and developed customized and adapted solution for each segment.

E24 offers solutions that take into consideration the lifestyle or work style of its customers while making sure that security and safety come first. E24 understands that technology must be a problem solver and must integrate our lifestyle seamlessly. It is in this spirit that E24 offers targeted solutions for homes, villas, businesses, buildings, factories & villages. E24 is constantly developing solutions to further enhance the economics and lifestyle of its customers while targeting larger audiences.

www.e24solutions.com

ISO 9001:2015

QUALITY STANDARD