



**KSTAR**

Powering the Future

# KSTAR Case Study



Optimizing Energy Efficiency  
for UNEI in Spain :

KSTAR's 100kW BluePulse Series Integration



## Background

With a growing emphasis on sustainability and energy efficiency, companies are encountering unique challenges in managing their energy demand curves. This is especially true for those with high energy consumption patterns due to extensive operational activities. UNEI, a leading company in Spain, sought to optimize its energy efficiency in its Seville project. This initiative, undertaken by QUANTICA in collaboration with Soleme, aimed to enhance energy management through advanced technological solutions.

## Client Profile

UNEI, a leading company in Spain, excels in providing comprehensive supply chain solutions, including supplier management, storage, product handling, transport, and installation. Energy efficiency is crucial for UNEI as it directly impacts their operational costs and sustainability goals. By focusing on renewable energy, UNEI reduces its environmental footprint, lowers expenses, and enhances energy security. This project highlights UNEI's commitment to integrating advanced energy solutions and promoting sustainable development.

## Challenge:

UNEI faced the following challenges:

- 1) High energy consumption during peak operational hours.
- 2) Integration of new energy storage solutions with existing infrastructure.
- 3) Optimizing the use of photovoltaic (PV) energy and minimizing reliance on grid power.
- 4) Implementing a seamless and efficient energy management system.

## Project Challenge

To enable the seamless operation of two sets of BluePulse energy storage systems working in parallel, KSTAR engineers faced the challenge of ensuring effective communication and management across the entire system. The solution involved the application of the EMS01D connector, a sophisticated device designed to facilitate robust and reliable communication between multiple energy storage units. This connector played a pivotal role in synchronizing the operation of the BluePulse systems, allowing them to function as a cohesive unit. By implementing the EMS01D connector, KSTAR engineers ensured that the energy storage systems could effectively manage and distribute the stored energy, maintaining high efficiency and optimal performance.

## Product Used:

KSTAR's BluePulse series, the KAC50DP-BC100DE all-in-one C&I energy storage solution, comprising 50kW and 100kWh storage systems, was selected for this project. These systems were integrated with an existing Huawei 100kW installation using the Renesys solution. The BluePulse series is known for its exceptional safety, efficiency, and flexibility, making it an ideal choice for UNEI's energy optimization goals.

## Implementation of the Project:

The energy storage systems were installed on-site and integrated with the existing PV installation. The Renesys solution facilitated the seamless integration of the new systems with the existing Huawei infrastructure. The EMS01D connector ensured effective communication and management among the entire system. The setup allowed UNEI to store excess energy generated during low-demand hours and utilize it during peak operational periods, thereby optimizing energy usage and reducing costs.



BluePulse Series  
KAC50DP-BC100DE

## Results:

1. **Peak shaving:** The energy storage systems effectively reduced the energy demand during peak hours, minimizing reliance on grid power.
2. **Increased self-consumption:** By storing excess solar energy and using it during high-demand periods, UNEI achieved higher self-consumption rates, resulting in significant energy cost savings.
3. **Enhanced energy management:** The integration of the BluePulse systems with the existing infrastructure provided UNEI with greater flexibility and control over its energy usage.



## Customer Feedback:

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"Implementing KSTAR's BluePulse energy storage solutions has been transformative for our Seville project. The systems' efficiency and integration capability with our existing infrastructure have allowed us to optimize our energy usage and significantly reduce costs. We highly recommend KSTAR's solutions to other companies looking to enhance their energy efficiency."

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## Conclusion:

By incorporating KSTAR's BluePulse series, UNEI successfully addressed its energy management challenges. The integration with the existing Huawei installation, facilitated by the Renesys solution, enabled UNEI to achieve higher energy efficiency, reduced costs, and greater operational flexibility. KSTAR's solutions demonstrated their effectiveness in supporting sustainable energy management for businesses.

## Contact Information:

KSTAR, a leading global new energy solution provider, boasts a well-established presence in key solar markets worldwide. Our expertise spans the spectrum, delivering cutting-edge PV inverters and energy storage systems featuring CATL battery solutions. Our offerings cater to residential, commercial & industrial, and large-scale utility applications. Backed by 30 years of experience in electrical and electronic technology, KSTAR is committed to generating superior new energy solutions for a diverse global clientele.

With cutting-edge energy solutions, KSTAR is ready to tailor a sustainable energy solution to fit your business needs. Take the first step towards a brighter, greener future by contacting us at [marketing@kstar.com](mailto:marketing@kstar.com).