GEM
Global Equipment & Manufacturing

- BESS -

(BATTERY ENERGY STORAGE SYSTEMS)

THE **PACKAGED INNOVATION** EXPERTS

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UTILITY SHORTCOMINGS

Many areas in the US are known to suffer disabling rolling black-outs and regular brown-outs due to the age and overstress of the existing transmission & distribution (T&D) infrastructure, extreme weather conditions, and many other critical failure factors.

To combat these T&D issues, more and more utilities, independent power producers, battery OEM's, and end-users of electrical energy are considering the implementation of battery energy storage system (or BESS) technology. When the BESS is placed within a specially modified ISO Shipping Container (normally done to increase its total payload capacity and/or to improve accessibility), it becomes known as a CBESS.

CUSTOM **BUILT** INTEGRATED **EQUIPMENT**

ENERGY ASSET MANAGEMENT

CBESS installations are becoming a very useful tool to manage energy assets as the deep-cycle batteries store power from the utility grid (most optimally during off-peak times), from fossil fuel-fired power generators, and/or directly from renewable energy sources such as solar arrays and/or wind turbines. When needed, this stored energy is then released and utilized for many functions, such as a non-utility T&D alternative, voltage regulation, deferral of capital improvements, and many others.

GEM has participated in a number of these CBESS design & build projects to directly address the needs of a growing energy storage market. We we will continue working with partners and end-users to develop new technologies and effectual ways of integrating & packaging stored energy with the aim of helping maintain the performance and reliability of the local electrical power grid while repurposing existing technology and combining it with new technology to make a new product that will benefit everyone.

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CBESS SYSTEM **DESIGN** FEATURES

GEM'S CBESS units can be designed to be location-specific with the required voltage and amperage inputs & outputs and are normally provided as complete, factory built, turn-key systems including:

BATTERIES

BATTERY MANAGEMENT SYSTEM (BMS)

RACKING (SEISMIC-QUALIFIED IF APPLICABLE)

ENVIRONMENTAL CONTROLS (HVAC/R)

FIRE DETECTION & SUPPRESSION SYSTEMS

DC COMBINERS

AC/DC CABLING

DC X AC INVERTER TECHNOLOGY

OPTIONAL EQUIPMENT

When a client comes in with a special request, we have the ability to engineer, design and manufacture a container specific to their needs. Electrical, mechanical and structural modifications are all performed on-site for quality assurance and accuracy to ensure we deliver a top notch product each and every time!

LIFE SAFETY EQUIPMENT

POWER DISTRIBUTION & CONTROL

DATA ACQUISITION & MGMT

AUXILIARY ELECTRICAL

& MORE

OUR CASE STUDY

GEM recently completed a customized BESS unit for Enervenue out of California. The scope of the project was to provide a packaged unit to showcase the company's new and innovative battery architecture. Below are a group of photos that highlight the project during the fabrication process.

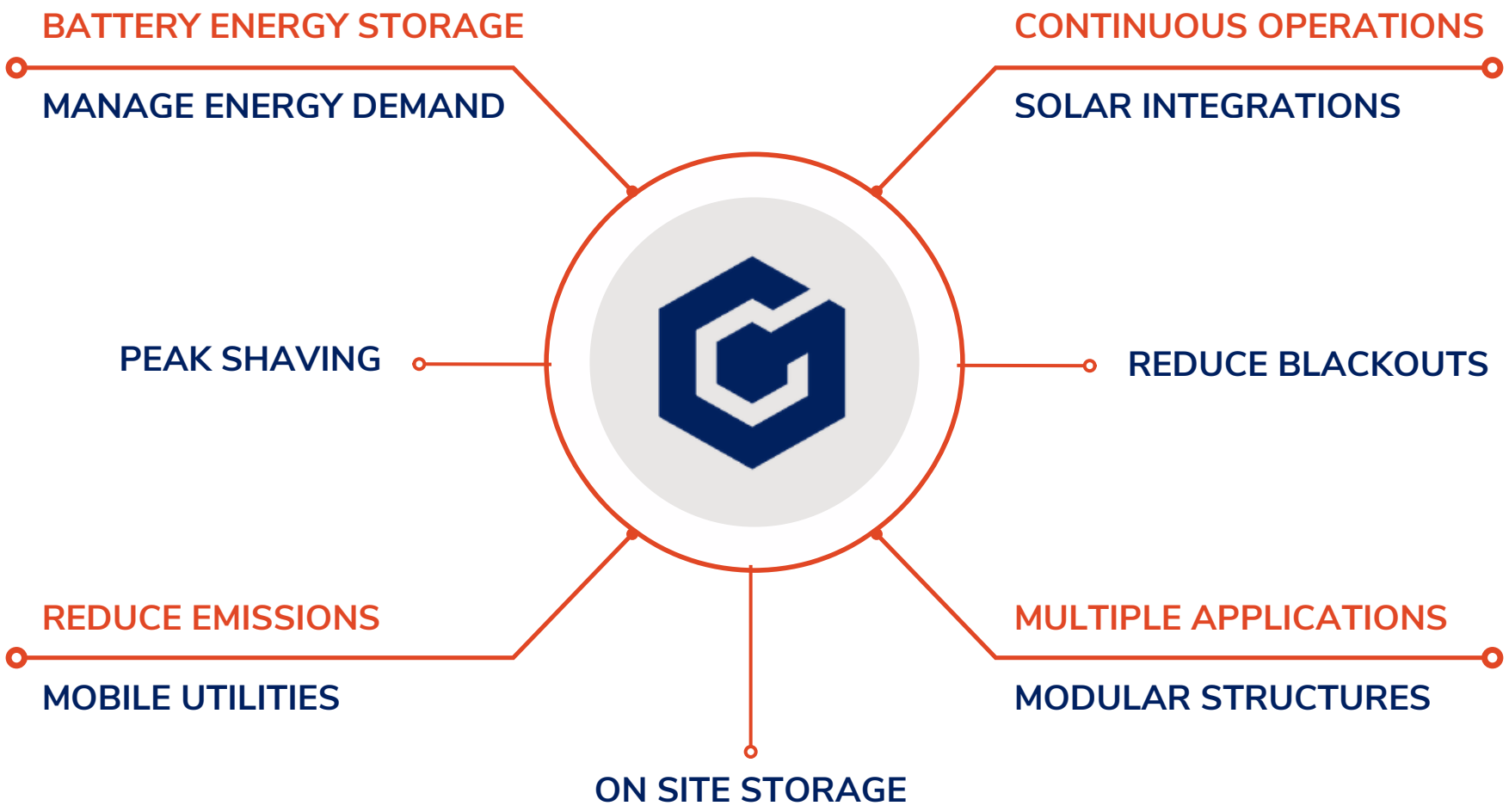
A GLOBAL FOOTPRINT

Our worldwide client base includes end users, manufacturers, EPCs, distributors, and general/subcontractors with interests in all levels of public, private, civilian, military and government market segments.

AROUND THE WORLD

- UNITED STATES
- CENTRAL & SOUTH AMERICA
- EUROPE
- THE MIDDLE EAST

THE ADVANTAGES OF BESS CONTAINERS



THANK YOU

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