



# High-efficiency energy storage containers for drilling sites





## Overview

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As the increasing scale and complexity of drilling operations have significantly raised power requirements. Traditionally, these demands have been met using diesel-powered systems, often necessitating the use of multiple generators. While this approach provides the necessary power, it comes at a high cost.

Energy storage systems are an important component of the energy transition, which is currently planned and launched in most of the developed and developing countries. The article outlines development of an electric energy storage system for drilling based on electric-chemical generators.

**Battery Energy Storage System** The Jelec Battery Energy Storage System is a scalable and mobile solution engineered for the harsh operating conditions of the Oil and Gas industry. The system provides storage of electrical energy using state of the art Lithium Ion LTO Batteries to smooth the power.

Two jack-up rigs were retrofitted with Siemens Energy's BlueVault™ lithium-ion energy storage system. Initial data show that the low-emission upgrades in batteries, data monitoring, and other efficiency measures can deliver reductions in CO2 by up to 25 percent and NOx emissions by up to 95.

Minimizing energy costs is essential to operating a profitable drilling operation. mtu EnergyPacks offer a scalable hybrid E-drilling solution that allows you to optimize load profiles and add battery capacity to various site applications. By uniquely integrating gensets like the mtu Electric.

(WO) – Caterpillar Oil & Gas announced the launch of the Cat Hybrid Energy Storage Solution to help drillers and operators cut fuel consumption, lower total cost of ownership (TCO) and reduce environmental impact in today's oil and gas



operations. The custom-designed battery storage system stores. Which rigs have energy storage systems for onshore drilling?

The energy storage system developed for onshore drilling is among the world's first ones. As a foreign analog, only the project of the German rig manufacturer Bentec implemented in Oman can be highlighted. In 2017, the container-type 0.9 MW Bentec ESS with a storage capacity of 0.3 MW was put into trial operation on the KCA Deuteg T-94 rig.

Can electric energy storage systems be used for drilling rigs?

The work to develop electric energy storage systems for drilling rigs has been underway worldwide for the last 5 years, however, mainly targeting isolated offshore rigs.

Can electric energy storage be used for drilling based on electric-chemical generators?

The article outlines development of an electric energy storage system for drilling based on electric-chemical generators. Description and generalization are given for the main objectives for this system when used on drilling rigs isolated within a single pad, whether these are fed from diesel gensets, gas piston power plants, or 6–10 kV HV lines.

Which rigs use lithium-ion energy storage?

The solution has been installed on various marine vessels worldwide, including the West Mira ultra-deep semi-submersible, the world's first low-emissions drilling rig to use lithium-ion energy storage.



## High-efficiency energy storage containers for drilling sites



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THE SOLUTION nted a hybrid solution that integrates generator power with an advanced Battery Energy Storage System (BESS). This innovative omatically starting and stopping them as ...

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Designed and certified to meet global safety and grid standards, Wenergy BESS ensures high energy efficiency, long cycle life, and reliable performance for large-scale energy storage ...

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### **Siemens Energy delivers energy storage solution for Maersk ...**

Two jack-up rigs were retrofitted with Siemens Energy's BlueVault(TM) lithium-ion energy storage system. Initial data show that the low-emission upgrades in batteries, data ...

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## Home

The system provides storage of electrical energy using state of the art Lithium Ion L TO Batteries to smooth the power demand on drilling rigs (peak shaving) and to optimize the number of ...

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## Caterpillar Oil & Gas launches battery storage system to support

Engineered with a heavy-duty battery structure that provides vibration isolation, the Hybrid Energy Storage Solution is designed to protect against power failure, voltage ...

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## [Application of Energy Storage Cells in Oil and Gas Drilling](#)

The following sections provide a detailed analysis of the technology, control systems, application scenarios, and economic viability of energy storage cells, supported by ...

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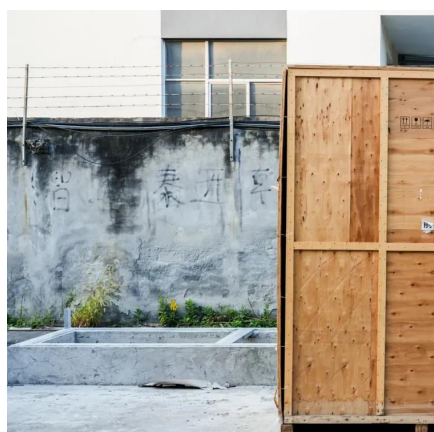
## Siemens Energy delivers energy



## storage solution for Maersk Drilling...

Two jack-up rigs were retrofitted with Siemens Energy's BlueVault(TM) lithium-ion energy storage system. Initial data show that the low-emission upgrades in batteries, data ...

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## TEI Times

Leveraging energy storage with a lower-carbon fuel such as gas is a field-proven way to achieve operational efficiency, enhanced performance and lower emissions ...

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## Hybrid E-Drilling Solutions

Highly compact and scalable, these battery energy storage systems (BESS) are the ideal solution for optimizing frequency and voltage stability, power supply availability and overall profitability ...

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## Energy storage systems for drilling rigs , Journal of Petroleum

The findings of this study can help to better understand which type of storage system is the most efficient for energy systems with temporary high load peaks, like drilling rigs.

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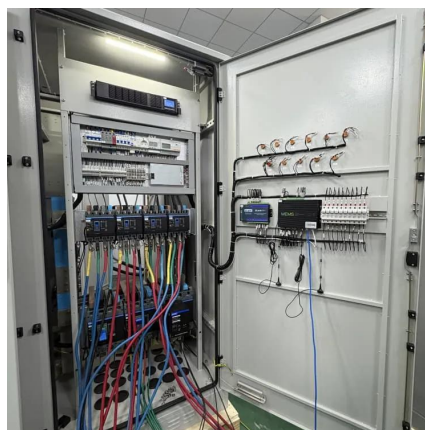
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