

PIENAAR ENERGY (PTY) LTD

Rail energy storage



Rail energy storage



Onboard Energy Storage Systems for Railway: Present and Trends

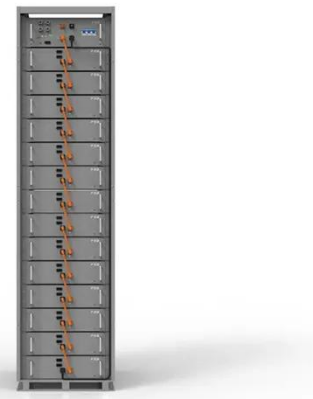
This article provides a detailed review of onboard railway systems with energy storage devices. In-service trains as well as relevant prototypes are presented, and their characteristics are analyzed.

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ARES Nevada Project

ARES Nevada is developing a 5MW GravityLine™ energy storage facility on approximately 20 acres at Gamebird Pit, a working gravel mine in Pahrump, Nevada. This project employs a fleet of mass cars, ...

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ARES North America

Advanced Rail Energy Storage (ARES) uses proven rail technology to harness the power of gravity, providing a utility-scale storage solution at a cost that beats batteries. ARES' highly efficient electric ...

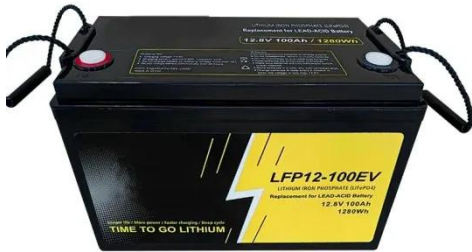
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Key Features of Rail Energy Storage Products: Innovation on Track

Welcome to 2025, where rail energy storage products are revolutionizing how we handle electricity grids. These systems essentially use heavy rail cars as giant mechanical batteries - moving them uphill ...



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Locations & Contacts

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Pahrump Valley Times: Energy Storage Project Breaks Ground in ...

As detailed on its website, the project will encompass roughly 20 acres and include a fleet of 210 mass cars, which are essentially train cars situated on a closed set of 10 multi-rail tracks. ...



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Energy Management Strategy of Urban Rail Energy ...

In this paper, an energy management



strategy based on the urban rail transit energy storage system is proposed based on the impact of train ...

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Flynn's Harp: Kirkland company's plan for rail-car energy-storage

A groundbreaking was held last week for the project, the first of what ARES has branded as GravityLine energy storage facilities. This one will generate up to 50 megawatts of stored ...



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Advanced Rail Energy Storage

Over the last decade, ARES has developed, tested and patented rail-based, gravity-powered energy storage technologies. By 4th quarter 2024, we will have our first facility in operation with many more ...

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Onboard energy storage in rail transport: Review of real ...

Despite low energy and fuel consumption levels in the rail sector,

further improvements are being pursued by manufacturers and operators. Their primary efforts aim to reduce traction energy ...

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Category: Uncategorized

The decade-long quest of two Seattle businessmen and the team of prominent investors they have attracted to create a unique new method for generating renewable energy is about to bear fruit in the ...

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How Energy Storage Systems Are Powering the Future ...

Energy storage systems significantly enhance the operational efficiency of electric trains by providing rapid energy discharge, reducing peak ...

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Tech Report: Kinetic energy storage system increases efficient use of

The Los Angeles County Metropolitan Transportation Authority recently

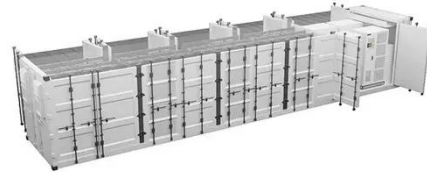


completed the installation of a VYCON kinetic energy storage system at Metro's Red Line Westlake/MacArthur Park ...

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How energy storage could transform the railway industry

A recent article published in Renewable and Sustainable Energy Reviews unpacks how energy storage can be strategically integrated into electric rail infrastructure to decrease emissions, ...



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Review on the use of energy storage systems in railway applications

The wide array of available technologies provides a range of options to suit specific applications within the railway domain. This review thoroughly describes the operational mechanisms ...

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Keith S. MacKay

Keith MacKay brings over 25 years of expertise in manufacturing, fleet operations, and energy systems to his

role as Director of Manufacturing at
Advanced Rail Energy Systems (ARES)
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- Efficient
Higher Revenue**
 - Max. Efficiency 97.5%
 - Max. PV Input Voltage 600V
 - 150% Peak Output Power
 - 2 MPPT Trackers, 150% DC Input Overvoltage
 - Max. PV Input Current 16A, Compatible with High Power Modules
- Intelligent
Simple O&M**
 - IP66 Protection Degree: support outdoor installation
 - Smart I-V Curve Diagnosis Function: locate PV string faults accurately and automatically detect faults
 - DC & AC Type II SPDs prevent lightning damage
 - Battery Reverse Connection Protection
- Flexible
Abundant Configuration**
 - Plug & Play, EPS Switching Under 15ms
 - Compatible with Lead-acid and Lithium Batteries
 - Max. 6 units Inverters Parallel
 - AFCC Function (Optional): when an arc fault is detected the inverter immediately stops operation

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