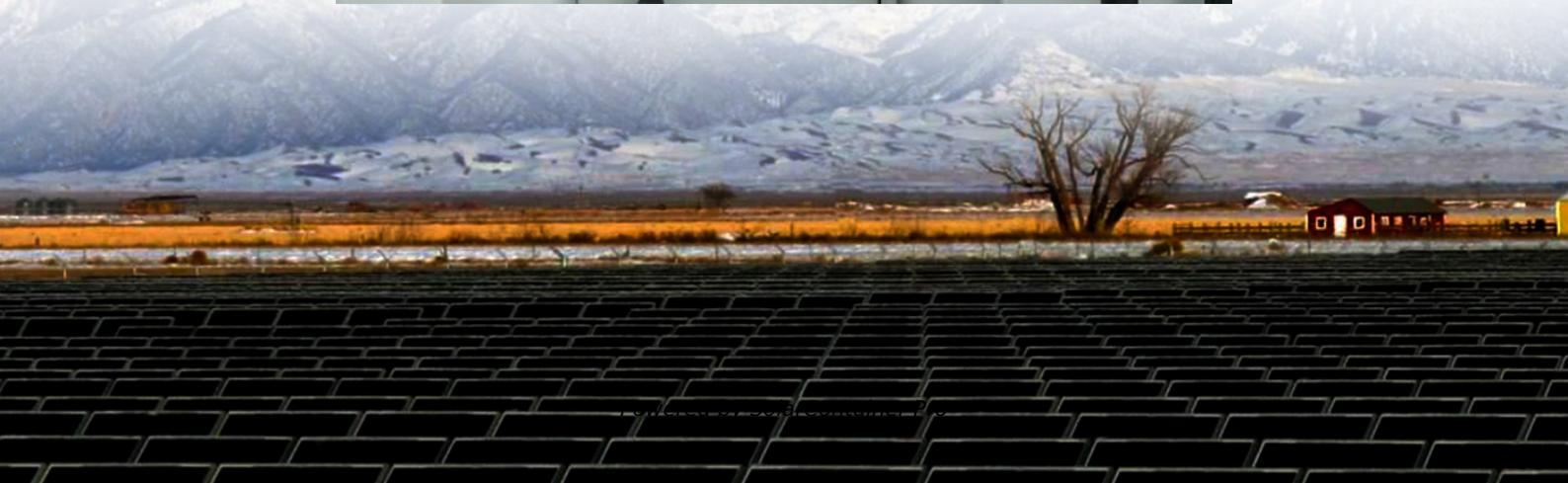
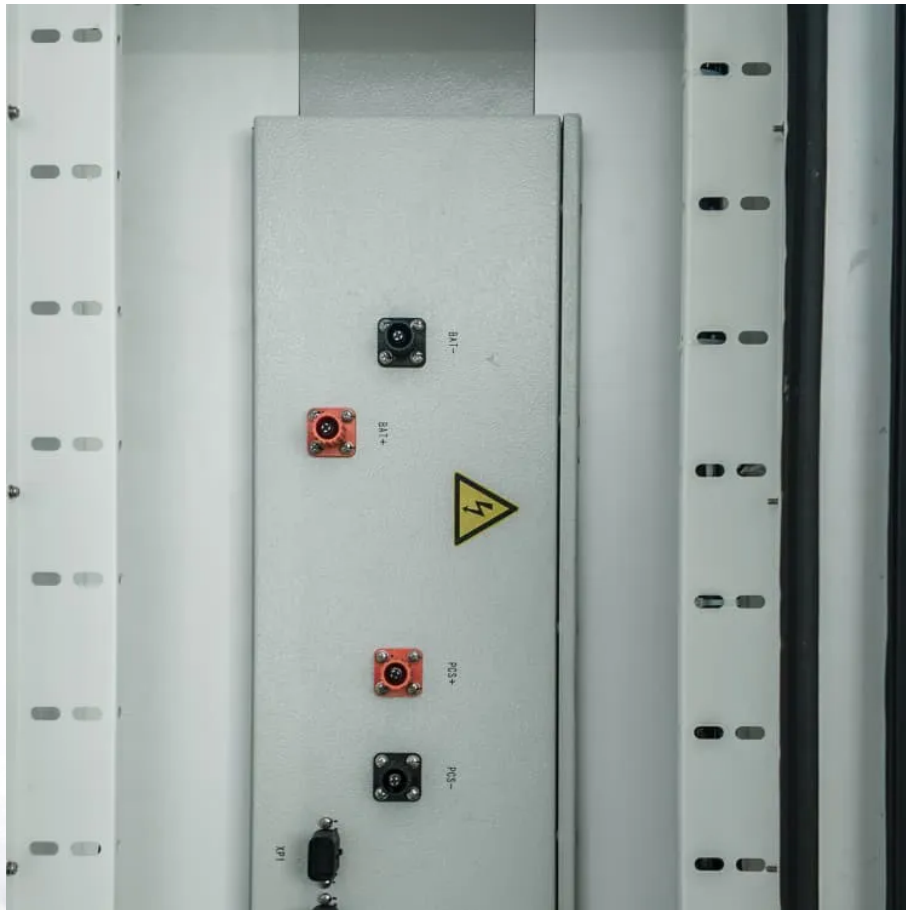


Bangladesh Communications 5G Base Station AI Energy Saving Project





Overview

How AI based energy saving can help BS Energy Saving?

In response to the requirement of an intelligent and self-adaptive energy saving solution, AI and big data technology are also introduced to BS energy saving for improving the efficiency and reducing the manpower required. 7.2. AI based energy saving for 5G base stations Nowadays the 5G network deployment is on the fast track around the world.

What is the energy-saving technology of base stations?

This technical report focuses on energy-saving technology of base stations. Some energy saving technologies since 4G era will be explained in details, while artificial intelligence and big data technology will be introduced in response to the requirement of an intelligent and self-adaptive energy saving solution.

What is the ITU-T Technical Report on 5G base station?

This document contains Version 1.0 of the ITU-T Technical Report on “Smart Energy Saving of 5G Base Station: Based on AI and other emerging technologies to forecast and optimize the management of 5G wireless network energy consumption” approved at the ITU-T Study Group 5 meeting held online, 20th May, 2021. 3.1.

Can network energy saving technologies mitigate 5G energy consumption?

This technical report explores how network energy saving technologies that have emerged since the 4G era, such as carrier shutdown, channel shutdown, symbol shutdown etc., can be leveraged to mitigate 5G energy consumption.

Is a 5G energy saving solution enough?

It also analyses how enhanced technologies like deep sleep, symbol aggregation shutdown etc., have been developing in the 5G era. This report aims to detail these fundamentals. However, it is far away from being enough,



a revolutionized energy saving solution should be taken into consideration.

How AI & big data can help save energy?

In response to the requirement of an intelligent and self-adaptive energy saving solution, artificial intelligence (AI) and big data technology are introduced to form a more precise energy saving strategy based on specific site traffic and other site-related conditions, thus improving the efficiency and reducing the manpower required.



Bangladesh Communications 5G Base Station AI Energy Saving Proj



Modelling the 5G Energy Consumption using Real-world ...

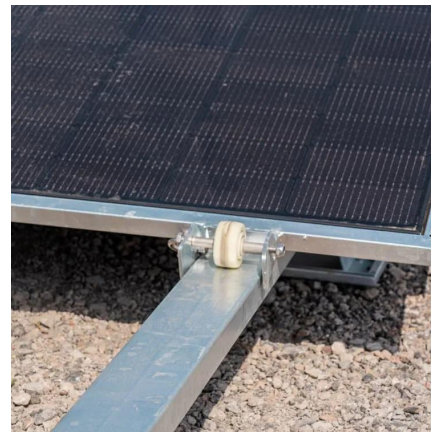
This paper proposes a novel 5G base stations energy consumption modelling method by learning from a real-world dataset used in the ITU 5G Base Station Energy Consumption Modelling ...

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[White Paper 6G Energy Efficiency and Sustainability](#)

Base stations Figure 3: Energy Consumption [5] Even if the energy consumption in data center can offset the growth of data volume, the situation on the Radio Network side is different: base ...

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[Power Consumption Modeling of 5G Multi-Carrier Base ...](#)

In this paper, we present a power consumption model for 5G AAUs based on artificial neural networks. We demonstrate that this model achieves good estimation performance, and it is ...

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Evaluation of the power-saving effect of 5G base station based on AI

Abstract The research and application of energy-saving technology for 5G wireless networks are significant for the emission-reduction work of



Communication Operators. ...

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Energy Saving Technologies and Best Practices for 5G Radio ...

This article identifies energy-saving potential of the fifth generation (5G) Radio Access Network, and describes main energy-saving principles and technologies. It explores how to use network ...

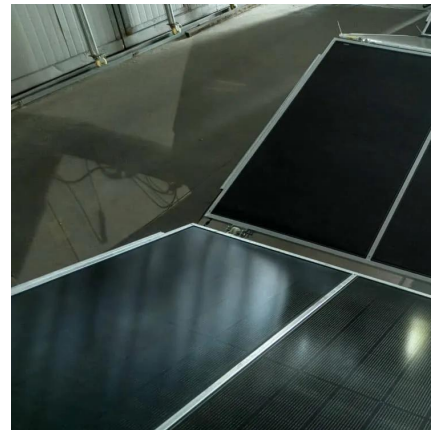
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AI-based energy consumption modeling of 5G base stations: an energy

The energy consumption of 5G networks is one of the pressing concerns in green communications. Recent research is focused towards energy saving techniques of base ...

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Intelligent Energy Saving Solution of 5G Base Station Based on

This article identifies energy-saving potential of the fifth generation (5G) Radio Access Network, and describes main energy-saving principles and technologies.

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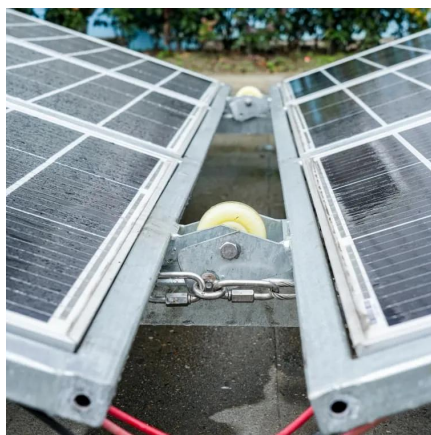
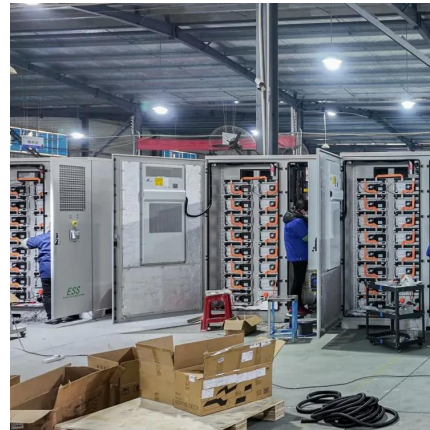




Intelligent Energy Saving Solution of 5G Base Station Based on

This paper introduces the basic energy-saving technology of 5G base station, and puts forward the intelligent energy-saving solutions based on artificial intelligence (AI) and big data ...

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Evaluation of the power-saving effect of 5G base station based ...

In this paper, a framework is developed to study the impact of different power model assumptions on energy saving in a 5G separation architecture comprising high power ...

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Final draft of deliverable D.WG3-02-Smart Energy Saving of ...

Smart Energy Saving of 5G Base Station: Based on AI and other emerging technologies to forecast and optimize the management of 5G wireless network energy consumption

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[Smart Energy-Saving Solutions Based on Artificial ...](#)

Execution Strategy: The network management system receives the integrated energy-saving strategy and executes energy-saving functions on 5G base stations, such as deep sleep, ...

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[Machine Learning and Analytical Power Consumption ...](#)

Abstract--The energy consumption of the fifth generation (5G) of mobile networks is one of the major concerns of the telecom industry. However, there is not currently an accurate and ...

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Evaluation of the power-saving effect of 5G base station based on AI

In this paper, a framework is developed to study the impact of different power model assumptions on energy saving in a 5G separation architecture comprising high power ...

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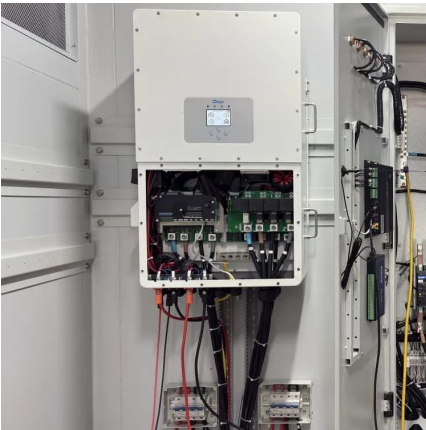


Intelligent Energy Saving Solution of 5G Base Station Based on

This paper introduces the basic energy-saving technology of 5G base station, and puts forward the intelligent energy-saving solutions based on artificial intell

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An Intelligent Energy Saving Strategy Recommendation Method of 5G Base

In order to find a better model of energy saving for 5G base stations to reduce energy consumption, this paper proposes an intelligent energy saving strategy re

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Optimal energy-saving operation strategy of 5G base station with

To further explore the energy-saving potential of 5 G base stations, this paper proposes an energy-saving operation model for 5 G base stations that incorporates communication caching ...

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Analysis of Intelligent Energy Saving Strategy of 4G/5G Network ...

With the large-scale deployment of 5G network of communication operators, there are more and more 5G devices, and the power consumption of mobile network surges. This ...

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