

Smart Solar-Powered Containerized Oil Platforms

What is a smart oil platform?

At the heart of an smart oil platform lies a fully interconnected digital architecture, capable of processing and analyzing operational data from multiple sources. IoT sensors installed on valves, pumps, wellheads, and critical structures collect millions of data points per second.

Are smart oil platforms a pillar of a new era?

In a context where operational efficiency, safety, and sustainability have become fundamental pillars of the energy sector, smart oil platforms are emerging as the protagonists of a new era in the offshore industry.

Which offshore wellhead platforms use hybrid power systems?

Oil and gas operators are increasingly turning to hybrid power systems to power their offshore wellhead platforms. For example, in the North Sea, Shell operates 13 offshore platforms that use hybrid power systems. Of these, eight monopile platforms, including Caravel, Cutter, L09- L13-FI-1 and Shamrock, use a solar-wind hybrid system. Such systems do not produce any direct greenhouse gas emissions.

Are smart oil & gas fields transforming the oil and gas industry?

The oil and gas industry is undergoing digital and intelligent transformation, and the development of smart oil and gas fields will reduce exploration and development costs and increase social and economic benefits.

A renewable energy arrangement powered by solar and/or wind energy in combination with batteries and standby diesel engines is fast becoming the system of choice ...

In the race toward energy transition, smart-powered platforms are how the oil and gas industry leads from the front, cleaner, smarter, and stronger.

Intelligent platforms are trailblazers in the energy transition, by making possible the infrastructure required, not only for today but also for the ...

It reviews the current development status of the wind-solar-geothermal-energy storage multi-energy synergy system, the integration of oil and gas fields with the multi-energy synergy ...

Intelligent platforms are trailblazers in the energy transition, by making possible the infrastructure required, not only for today but also for the energy demands of tomorrow.

Rosmari-Marjoram solar-powered unmanned offshore platform; Source: MMHE After the unmanned platform becomes fully operational, it will harness renewable energy via solar ...

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For example, Ikuerowo et al. (2024) proposed green hydrogen production systems utilizing water electrolyzers powered by renewable sources as an alternative for long-term ...

This introduction outlines the importance of reducing emissions in the oil and gas industry, examines the feasibility of renewable energy integration in offshore oil and gas ...

SatishChandra Kurapati Mustafa Khabbaz Saudi Aramco Saudi Aramco Dhahran, Dhahran, Saudi Arabia Saudi Arabia Abstract - This paper presents a case study for a recent ...

Oil and gas companies are adopting offshore solar and hybrid power systems, overcoming challenges with new technological advancements.

In the race toward energy transition, smart-powered platforms are how the oil and gas industry leads from the front, cleaner, smarter, ...

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