

Intelligent Power Management

A comprehensive solution for emissions, fuel costs, and engine wear



Emissions Reduction:
Lower CO₂ emissions by improved power generator management

Applications

Onshore and offshore drilling rigs

How it improves wells

Intelligent power management is a predictive power management system that reduces emissions, fuel consumption, and engine run time on the rig through a combination of automated software, energy storage system, and hydrogen injection.

How it works

Automated software begins with engine optimization software installation and the user interface, which enables real-time engine monitoring. This supports energy storage technology—more specifically, the battery control system and container. The final component is the hydrogen production and control unit—controlled by the user interface—that is fed data from the emissions sensors via cabling from the skid.

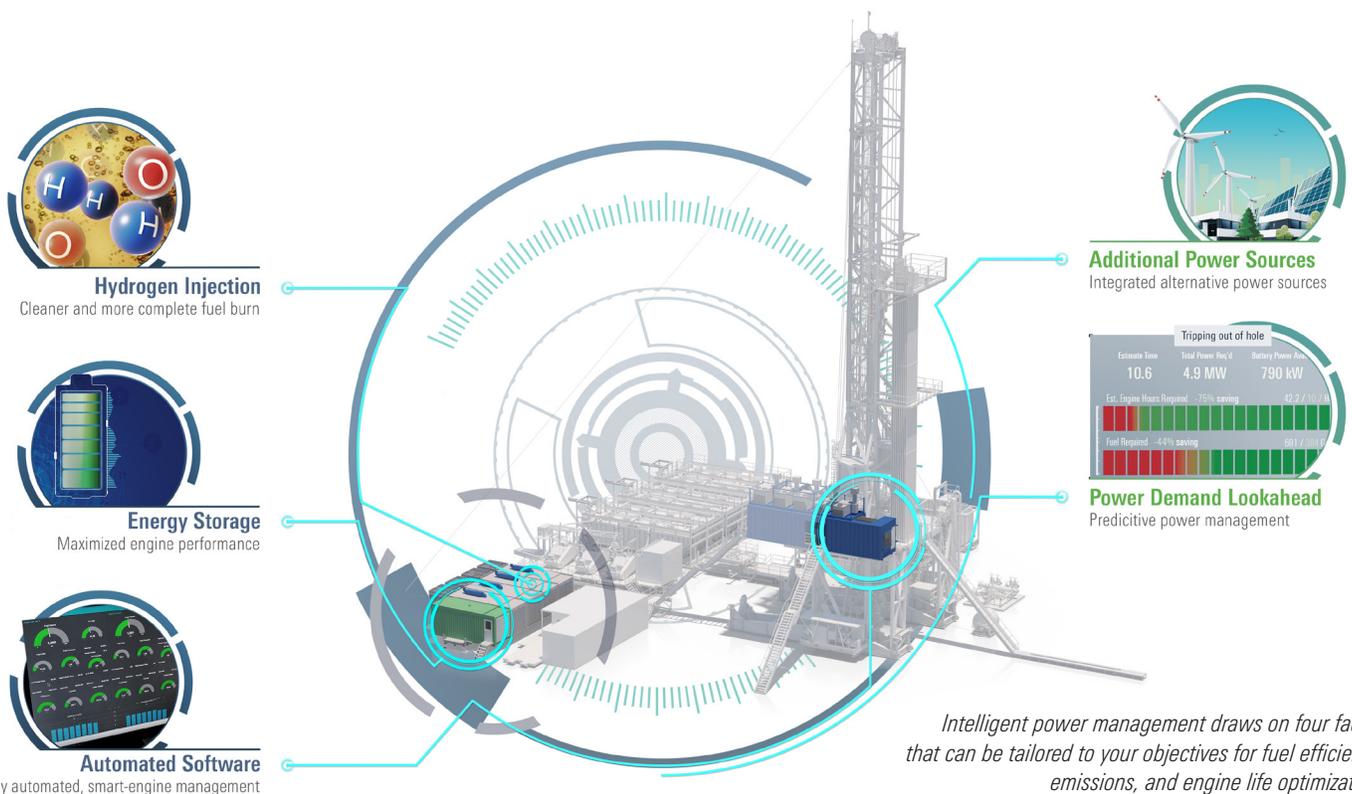
How it works is that the automated engine software has an adaptive start/stop feature based on rig-generator load, optimizing engine performance to reduce fuel consumption and emissions. This is where power lookahead is crucial because downhole data, the well plan, and surface data are used to predict the future power demand of the rig. When need is low, intelligent power management diverts excess energy to the battery system. When the rig needs more, it draws from the battery reserve rather than revving up the generator. The result is a consistent, optimal load on the engine.

Additionally, hydrogen is produced onsite and injected with oxygen into the engine's combustion chamber, which results in a more efficient burn of the fuel, further lowering emissions.

Intelligent power management is about seeing power management more clearly, and this solution can be tailored to your objectives based on equipment type as well as your goals for fuel efficiency, emissions, and engine life optimization.

The takeaways

With operators moving toward reducing their carbon footprints, emissions reduction from the rig during drilling operations plays a crucial role. Intelligent power management provides a solution to reduce emissions and fuel consumption on the rig.



Intelligent power management draws on four facets that can be tailored to your objectives for fuel efficiency, emissions, and engine life optimization.