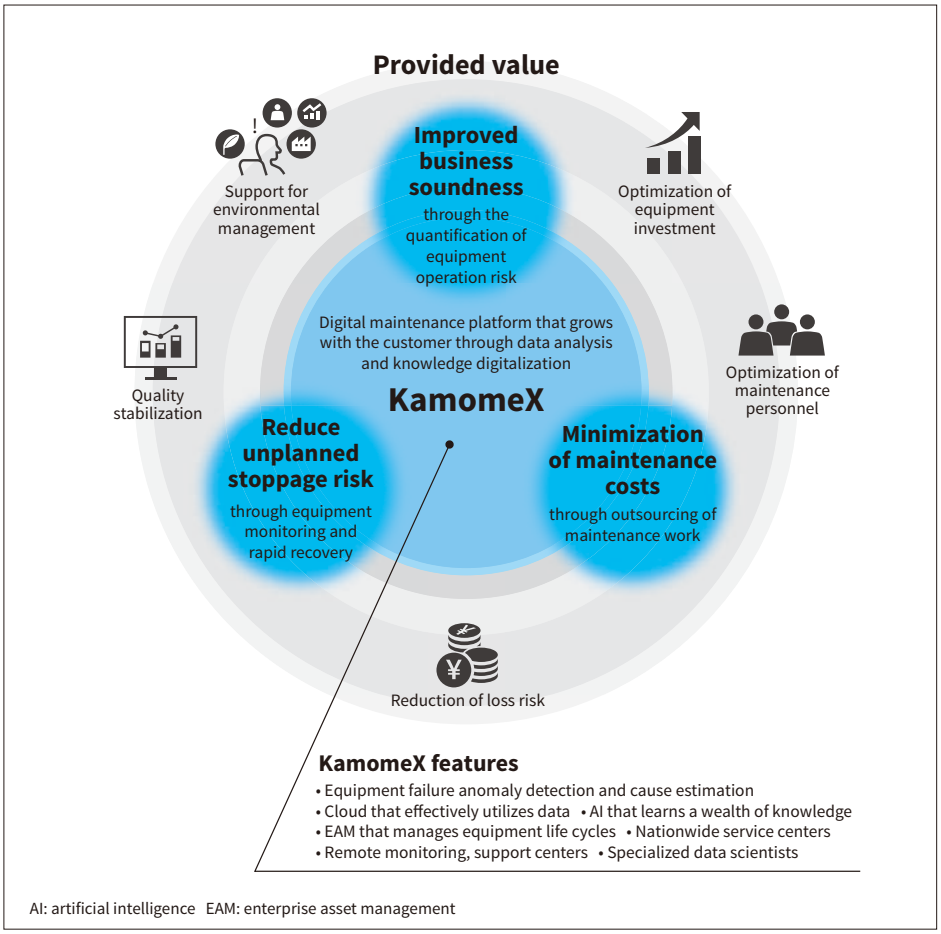
Energy

1 "KamomeX" Digital Maintenance Platform

Businesses that own equipment are faced with issues such as the need to streamline while guaranteeing stable operations, as well as the need to invest in new equipment while ensuring that technology is carried forward as workforce ages. In response to these challenges, Hitachi has developed its "KamomeX" digital maintenance platform, with the ability to visualize equipment operation data while seamlessly detecting anomalies, diagnosing causes of failure, and predicting progress. This platform enhances maintenance while supporting the management and operation of equipment assets, providing contract services, minimizing maintenance costs, reducing unplanned stoppage risks, and achieving value by improving business soundness.

KamomeX is provided as a cloud service via the Lumada Solution Hub, and offers advantages such as low-code data analysis that is easy to use for analysts lacking the specialized knowledge of data scientists, machine learning operation management functions for use by equipment managers that can assimilate the diagnostic results reached by technicians skilled at using equipment, and functions that can handle the issues that tend to occur with digitalization. Moving forward, the plan is to use methods such as progress prediction for predicting component life and diagnose failure causes using maintenance knowledge gained on-site, by adopting Hitachi's unique equipment maintenance skill digitalization technology (implementation period: FY2022).

As a result, not only will it be possible to maintain an optimal equipment state through equipment anomaly detection and failure cause diagnosis analysis, but even



1 "KamomeX" digital maintenance platform

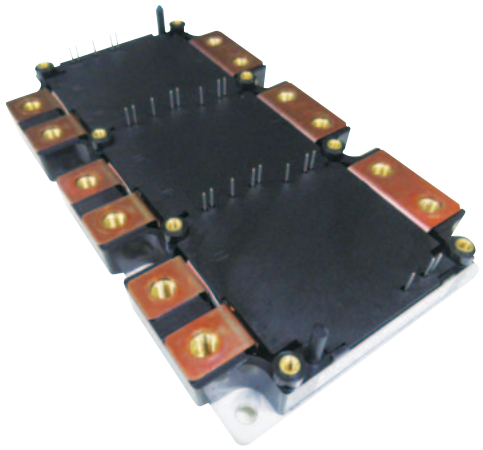
if an abnormality is detected, rush service or remote support instruction and service can reduce the customer's maintenance burden.
(Hitachi Power Solutions Co., Ltd.)

2 Direct Water Cooling Power Semiconductor Module for xEV

A 750V/900A direct water cooling insulated gate bipolar transistor (IGBT) module with a current rating improved by 13% compared to conventional products has been developed for electric vehicle traction inverters.

Hitachi Power Semiconductor Device, Ltd.'s IGBT modules for electric vehicles have been mass-produced since 2012 by combining water cooled copper pin-fins and high-heat conductive ceramic substrates. The current rating has been improved by applying the latest side gate structure to the IGBT dies in order to reduce loss and by applying high heat resistance lead-free solder with high copper containing improved Sn-based solder to die attach in order to improve power cycling capability.

The product lineup including 750 V/500 A and 1,200 V/400 A with the same footprint not only contributes to system downsizing, but also is widely applicable to 80 kW–160 kW inverters for battery electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEV). Therefore, it will contribute to the spread of electric vehicles and the realization of a sustainable society.
(Hitachi Power Semiconductor Device, Ltd.)



2 750 V/900 A 6 in 1 IGBT module