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Caterpillar Marine Asset Intelligence and SpecTec cooperate to raise maintenance management efficiency and cut costs

The parties are working on a joint solution to facilitate improved predictive maintenance, extend service intervals and reduce maintenance and repair costs

Houston, US – Caterpillar Marine Asset Intelligence has announced a new innovative project with maintenance management specialist SpecTec focused on optimizing ship maintenance. This joint accomplishment promises to reduce ship maintenance costs by enabling unnecessary maintenance to be deferred for shipboard equipment that is operating properly and identifying potential issues for action before a failure negatively impacts operations.

By means of the integrated solution, onboard sensor data that is automatically gathered and analyzed by the Cat[®] Asset Intelligence onboard predictive analytics platform, can also be integrated into SpecTec's computerized maintenance management system, AMOS. When deemed necessary – as a result of component analytics– a work order can be automatically generated requiring service either at the next convenient time, or immediately if necessary. The plan is to make this available for propulsion and other critical onboard systems for both Cat and non-Caterpillar equipment.

Any service event that is triggered by Cat Asset Intelligence component monitoring through AMOS may also be flagged to the relevant classification for inclusion in ship records. This seamless process will avoid any risk of human error and reduces administrative costs for busy seagoing engineering personnel.

“It is well-known that unnecessary maintenance can be detrimental to the long-term performance of components on board a vessel and that many failures are not strictly related to the passage of time or operating hours,” said Ken Krooner, Caterpillar Marine Asset Intelligence Technology and Operations Manager, announcing the upcoming cooperation/cooperative work with SpecTec in the week before SMM opens its doors in

Hamburg. “In fact, there have been several studies that have found that up to 80% of equipment failures are not-time-based by nature and that a significant percentage of these are caused by human factors including unnecessary interventions during inspections or maintenance of components that are operating perfectly well. By implementing predictive analytics on the vessel with Cat Asset Intelligence, we are able to automatically and continuously analyze for random failures, along with degraded performance, and then notify ship’s crew immediately when those conditions begin to manifest themselves through their performance data. Furthermore, we can now automatically notify the crew, via AMOS work orders, to take action based on actual condition and help our customers transition to a more proactive operations and maintenance strategy rather than rely strictly on a time based strategy.”

“These unnecessary interventions drive added maintenance cost and the failures drive more downtime. Our cooperation with SpecTec should help make the maintenance of shipboard equipment more efficient. It could help cut costs both by preventing or deferring unnecessary maintenance for equipment that is operating correctly and identifying potential issues before catastrophic failure. It’s a win-win all round,” Krooner added.

AMOS™ is shipping’s leading maintenance management system and is in use every day on thousands of vessels. SpecTec has more than 7,000 ships set up with AMOS maintenance software on board. Progressively upgraded and refined over the years, AMOS plays a key role in maximizing shipping’s uptime by enabling effective maintenance management of today’s complex vessels with as little human intervention as possible. The computerized maintenance system dramatically reduces the risk of unexpected component breakdown, thereby improving safety at sea and minimizing the risk of damage to the environment.

Caterpillar marine power solutions are backed by the worldwide Cat dealer network with trained technicians to ensure service support is never out of reach. For more information on Caterpillar Marine, visit www.cat.com/marine. Follow us on Facebook: www.facebook.com/caterpillarmarine and Twitter [@catmarineglobal](https://twitter.com/catmarineglobal).

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About SpecTec

SpecTec is a multinational company established in 1985, specialized in the offering of Asset Management Software and services in the markets of shipping, oil and gas, defence, energy production and distribution and land-based industry. The software AMOS™ (Asset Management Operating System) allows operation and control of all technical and documentation aspects in planned and predictive maintenance, spare parts and stock control, condition-based maintenance, purchasing and procurement, budgeting, quality and safety management, location tracking (for vessels and mobile units), document control and distribution, risk management, incident / accident / near miss, certificate management, auditing, non-conformity, quality work orders, self-assessment, personnel management and satellite data transfers. AMOS currently has 7300 active installations serviced through a network of 21 offices around the world supported by more than 30 years of experience in the business.

About Caterpillar Marine Asset Intelligence

Caterpillar Marine Asset Intelligence provides digital services and solutions to customers using data analytics and expert advisory services to predict and avoid equipment failures, reduce fuel and energy consumption, and optimize maintenance. While this offering is new as a part of Caterpillar, the organization has been delivering value to our customers for 15 years and is based on over 40 million hours of machine monitoring experience. This innovative technology and service offering compliments the Caterpillar Marine products and technologies that are focused on providing the highest level of uptime and the lowest lifecycle cost.

About Caterpillar Marine

Caterpillar Marine, with headquarters in Hamburg, Germany, groups all the marketing and service activities for Cat and MaK™ marine diesel, dual fuel and gas power and propulsion systems within Caterpillar Inc. The organisation provides premier power solutions in the medium- and high-speed segments with outputs from 93 to 16,800 kW in main propulsion and 10 to 16,100 kWe in marine generator sets as well as a comprehensive portfolio of propulsion solutions. The sales and service network includes more than 2,100 dealer locations world-wide dedicated to support customers in ocean-going, commercial marine and pleasure craft wherever they are.

More information is available at: MARINE.CAT.COM/pr

About Caterpillar

For nearly 90 years, Caterpillar Inc. has been making sustainable progress possible and driving positive change on every continent. Customers turn to Caterpillar to help them develop infrastructure, energy and natural resource assets. With 2014 sales and revenues of \$55.184 billion, Caterpillar is the world's leading manufacturer of construction and mining equipment, diesel and natural gas engines, industrial gas turbines and diesel-electric locomotives. The company principally operates through its three

product segments - Resource Industries, Construction Industries and Energy & Transportation - and also provides financing and related services through its Financial Products segment. For more information, visit caterpillar.com. To connect with us on social media, visit caterpillar.com/social-media.

More information is available at www.cat.com.

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