

Asset Management

agreements for improved equipment performance

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PHOTOS: WÄRTSILÄ AND SUOMEN KUVAPALVELU

Wärtsilä Services
manages generating
capacity in 55
countries worldwide.
[\[Below\]](#)



Wärtsilä has offered its customers Asset Management agreements, also known as Operation and Maintenance (O&M) agreements for almost twenty years. As power plant owners and vessel operators seek to optimise their operations and also mitigate possible risks, the number of contracts continues to grow.



“WHEN Wärtsilä signs an Asset Management agreement with a customer, it means that we assume the care, custody and control of that customer’s asset or assets,” says **Robert Bianco**, Area General Manager in Americas for Projects and Environmental Services. “Services are provided at a fixed rate and include performance guarantees. O&M agreements are the most comprehensive type of contract in the Wärtsilä family of Long Term Service Agreements (LTSA) which includes a wide variety of maintenance, maintenance planning, advisory and remote monitoring options.”

Traditionally, Service Agreements were made in connection with baseload power generation plants. “Today our Service Agreements customer base includes an increasing number of shipowners, the most recent being Royal

TRADITIONALLY USED
FOR BASELOAD
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PLANTS, **SERVICE
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The Kanuku Mountains are, the pride of Guyana.
 [Above]

ONE OF THE FIRST COMPANIES TO SIGN AN O&M AGREEMENT **WAS GUYANA POWER AND LIGHT INC.**

Caribbean Cruises Ltd.,” says Bianco. “That agreement was co-created with the customer to coordinate maintenance routines and schedule the delivery of spare parts as and when required.”

In general terms, Service Agreements now represent some 15% of the revenue from the services which Wärtsilä provides globally. Wärtsilä Services manages a total of 15 GW of generating capacity in 55 countries. In the Americas, Wärtsilä operates approximately 2 GW of power generation plant.

For customers, Asset Management Agreements represent optimised plant performance, efficiency and availability together with reliable estimates of future expenditure. Fixed price O&M agreements enable Wärtsilä’s customers to predict their plant’s lifecycle costs accurately.

An extensive portfolio of lifecycle service tools

Wärtsilä can provide engine Condition Monitoring (CM), Condition Based Maintenance (CBM) and Propulsion Condition Monitoring Service (PCMS) and lifecycle tools for planning and executing Service Agreements.



“Condition Based Maintenance is predictive maintenance. Maintenance decisions are based on the close monitoring of certain parameters, analysis and prognostics meaning that action can be taken in due time before an actual need arises rather than relying solely on scheduled tasks,” says **Tommi Kauppinen**, General Manager, Wärtsilä Optimizers, Wärtsilä Services. “The monitoring of engines is mostly carried out remotely (more detailed monitoring processes require a manual approach) with information on their internal and external condition being handled online by specialists. Experts in our CBM centres in Vaasa in Finland (4-stroke engines), Winterthur in Switzerland (2-stroke engines) and Drunen in The Netherlands (propulsion) continuously follow the operation of more than 400 equipment parameters.”

Wärtsilä’s Propulsion Condition Monitoring Service is the equivalent of condition monitoring plus condition based maintenance, but designed for monitoring propulsion equipment on ships. This system measures vibrations,

pressures, oil contamination, and temperatures and interfaces with the control system to obtain process parameters.

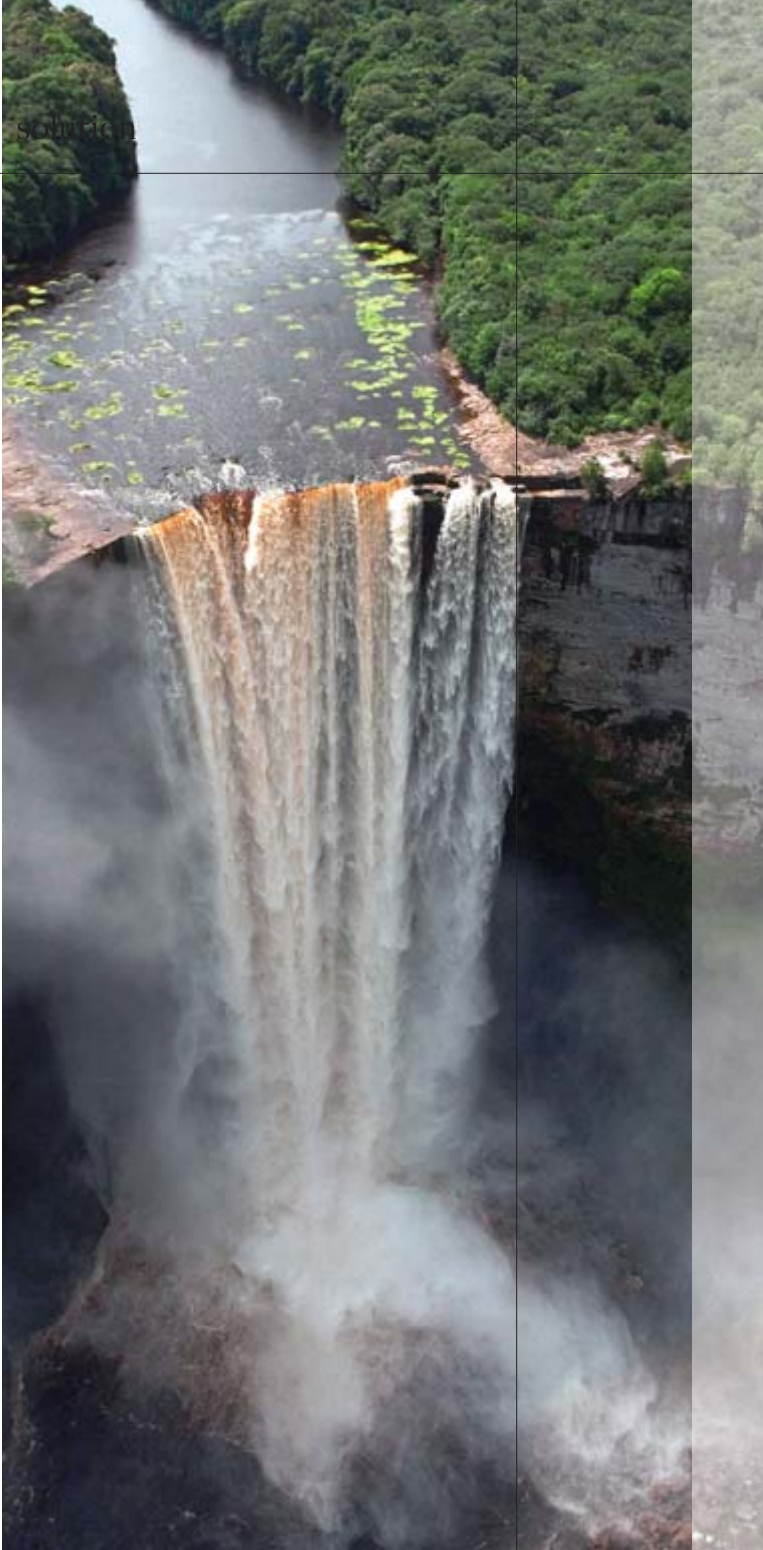
Future trends include customised solutions and a proactive approach

“Dynamic Maintenance Planning is based on CM and CBM and includes the planning of the actual maintenance, resource allocation and actions,” says **Timo Lehtinen**, CBM and Energy Efficiency Manager, Wärtsilä Services. “Using information stored in the Wärtsilä database on the basis of each system’s monitoring parameters, our experts assess whether extended maintenance procedures are necessary and when they can be carried out.

“Our optimizing concept includes the centralised collection of operational data and the use of this for performance improvement,” he continues. “A good example of this is achieving the highest possible levels of energy efficiency. This is a new and more proactive approach in service provision.” →

Proactive solutions address problems before they arise. [Below]





"An uninterrupted flow of power."
The 226-metre Kaieteur Falls
on the Potaro River, central Guyana.

"Customers now ask us to help them overcome challenges by providing customised solutions which enable optimisation of their operations," says Bianco. "We see many future opportunities in Service Agreements. Proactive solutions help our customers to address possible problems before they actually materialise. Partnerships with our customers are based on trust – they rely on us and we rely on them." ●



Two decades of O&M in Guyana

GUYANA POWER AND LIGHT INC., a state-owned power utility, was among the first companies to sign an O&M Agreement with Wärtsilä. When a new government took over in Guyana in 1992, the decision was made to invest in new power-generation technology. A team of experts was given the task of identifying a suitable equipment supplier and Wärtsilä's name came up. At that time, Guyana Power and Light Inc was known as the Guyana Electricity Company and the responsible organisation in Wärtsilä was the Wärtsilä Diesel Development Corporation.

"Wärtsilä made an offer for two medium-speed 5.5 MW engines in spite of objections by at least one multinational bank which was proposing alternative technologies and claiming that our technology was unreliable," says **Paul Smith**, Director of Wärtsilä Development and Financial Services, Wärtsilä's representative in the contract negotiations. "To demonstrate that our technology was reliable, we offered to protect the customer's investment by providing long-term operation and maintenance of the power plant. The original O&M agreement was signed in January 1994."

In 1995, Guyana Power and Light extended its power generation capacity with an order for another 11 MW facility and the O&M agreement was amended accordingly. In 1996, another 22 MW plant was built and the agreement was once again extended. Growth in Guyana Power and Light's operations continued with a 21 MW unit being constructed in 2009. By the end of 2011, Wärtsilä will be operating and maintaining 81 MW of generating capacity for Guyana Power and Light with the help of Wärtsilä's highly-skilled Guyanese staff.

"Wärtsilä produces about 70% of the power we generate," says **Bharat Dindyal**, CEO of Guyana Power and Light. "The technology has proved most reliable and Wärtsilä representatives are always highly educated and competent. The engines installed almost twenty years ago are still in operation and provide an uninterrupted flow of power. Our company has been successful and is in a growth mode."

"In 2002 our annual revenues totalled GYD 12,000 million (EUR 44 million), in 2010 that figure was almost GYD 27,000 million (EUR 100 million)," says **Winston Brassington**, Chairman of the Board, Guyana Power and Light. "In 2005-2010, our customer base increased by 25,000. Our success factors are cost efficiency, increasing the proportion of less-expensive HFO in our fuel mix, reducing technical and commercial losses and developing an interconnected power transmission network."

