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Keeping the world's power plants in fine tune

A TYPICAL lifespan of heavy-duty gas turbines in power plants are 25 to 30 years, but with extra attention on the proper power generation services and upgrades, the machinery can be expanded to last longer.

Given the heavy capital involved when investing in gas turbines, steam turbine or power generators, GE takes pride in providing the best power generation services aimed at protecting the power assets of its customers' worldwide.

Drawing from its over 100-year history of manufacturing high-tech turbines and power-related products, GE everyday collects over 30,000 operating hours of data from more than 1,600 globally-deployed power generation assets that supplements a 40-terabyte database representing more than 100 million fleet operating hours.

Most modern power plants provide more data and create actiona-

ble information making them more efficient than in the past. Advanced sensors and smarter instrumentation provide additional opportunities to utilise the "big data" in the form of informational and actionable analytics.

At the GE Power Generation Services' Remote Monitoring and Diagnostic Center (M&D) in Atlanta, Georgia, some 50 M&D engineers worked around the clock 365 days a year to analyse more than 35,000 operational alarms per year to assist GE customers in enhancing their power assets' reliability and performance.

These engineers are trained to diagnose problems ranging from failed sensors to gas turbine compressor damage.

Apart from Atlanta, GE has also set up similar additional support centres in Scotland, France and India.

According to GE Power

Generation Services chief technology officer Steve Hartman, there are many aging or retiring power plants that will soon need upgrades or the setting up of new power plants in Asia and other parts of the world.

"This is where GE power generation services comes in as we do global repair for the world market.

"That is why we have over 600 service agreement contracts with our customers from long term parts and services repair, risk acceptances right down to operate and maintain services for power plants," he tells a group of journalists from Malaysia, Turkey, Saudi Arabia and Egypt," says Hartman.

He also sees the future trends where the software, data, analytics, data controlled embedded in the GE gas turbines, steam turbines and power generators would tremendously help GE customers operate efficiently and cost savings.

For example, from the M&D team continually improved the algorithms had increased the probability of detection thus reducing false alarms at the power plants.

"This depth of expertise as well as operational excellence in execution of downstream processes, had generated GE customer savings estimated at over US\$70mil in 2014," he adds.

Hartman also foresee Asia including Malaysia compared to other regions would be taking out the older technology 20-year old power plants and projected to put in new power plants with higher efficiency.

"I believe that Tenaga Nasional is also looking at upgrades for their 9F and 9E class machine. But I also think they can do both - new power plants or do upgrades.

"It is an economic decision depending on what the respective country needs,"

"GE will try to sell more of its HA class machine into Asia and the Middle East particularly in countries that are facing inefficiency and reliability power issues where their national grids are not so stable to support the increasing demand for power," adds Hartman.

PGS Vice President of Sales and Commercial Operations Joseph Anis concurs saying that there is a big opportunity for GE across Asia to sell its gas turbines and power generators related products.

"For Malaysia, GE is looking at the Track 4 project with interest and will work closely with utility companies."

He noted that GE is fully committed in supporting its customers worldwide as GE is a multinational corporation with many of its engineers having local presence.

GE hired 3,500 engineers globally that supports the power generation service businesses.