



# How a big gas production facility found a little crack that could have cost 33% of production

A leading producer of oil and gas in the Asia-Pacific region maintains an extensive infrastructure across its vast exploration and production acreages.

The company is committed to driving value from the performance of its existing operations as it expands into Papua New Guinea, Vietnam, and Indonesia.

In order to achieve its goals, the company relies on maximising the efficiency of its assets.

*machinemonitor® is an independent electrical engineering consultancy that helps companies in the heavy industry sector gain a competitive advantage by increasing the efficiency and lifespan of capital assets. machinemonitor® has 15 years of experience in the asset management of electrical rotating machines and auxiliary equipment, and acts as a strategic partner by delivering design, troubleshooting, specialised field testing, repair management, condition monitoring and unique risk management services.*

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## A critical problem was discovered

The company's business continuity was threatened when a compressor motor was discovered to be experiencing high levels of partial discharge during a routine maintenance check. An increase in partial discharge levels can indicate the deterioration of insulation in the motor, which can lead to motor failure.

The company tried to solve the problem on its own several times, but the levels of partial discharge continued with little improvement. Monitoring and trending results showed that there were serious issues with the motor.

This motor was business-critical. If it failed, the company would lose up to 33% of production, and significant revenue would be lost along with it. The cause of the partial discharge had to be addressed without delay.

## Specialised expertise and equipment were needed

It was time to call in help. The company turned to machinemonitor® to deliver an accurate diagnosis that would help them solve the problem once and for all.

Using IRIS partial discharge monitoring techniques, analysis & trending of test data together with a detailed visual inspection regime, the source of the partial discharge was quickly identified: **cracking insulation in one coil at the slot exit.**

## Now, business continuity is based on known conditions

The discovery of cracking insulation on the compressor motor by machinemonitor® helped the company understand the potential risk it faced. A risk assessment and cost/savings analysis was conducted in order to make a knowledgeable plan for the motor's failure. The results of the investigations made a clear business case for purchasing a spare motor.

Now the company knows that when the crack in the coil finally causes failure in the motor responsible for 1/3 of production, a replacement will be ready. The company will quickly be able to return to full capacity with little effect on output.

Decisions based on objective quality evidence are key to reducing business risk