



Castrol Duratec G
Superior
Performance



Castrol saves operator over \$75,000 with improved performance lubricant.

The customer is a values-driven, publicly traded global company committed to their vision of transforming energy for a sustainable future.

Castrol worked with this customer on a product performance assessment for one of their designated engines. The results yielded significant savings for the customer who subsequently confirmed their plans to switch to Castrol Duratec G for all the engines at their gas processing plant.





What is Castrol SmartGains?

Castrol's SmartGains approach increases asset optimisation, reduces lubrication consumption and increases oil drain intervals*.

Our simple, interconnected interventions across lubrication and maintenance strategies can help deliver potential significant value for businesses. We call them Castrol SmartGains, providing measurable improvements across three key areas:

Asset optimization

Helping you maximize the operation and productivity of assets.

Risk mitigation

Potentially minimising unnecessary costs and delays during build and operation to promote safety and optimum performance of assets.

Supply chain effectiveness

Potentially optimising timing of orders promoting potential cost savings and reliability of supply.



The Problem

High lubricant and filter consumption when operating in sour gas conditions leads to higher operating costs.

Facing faster oil degradation under operating conditions with severe gas composition of over 600 ppm H₂S, this customer was keen to explore solutions that could extend oil drain frequency.

Rapid oil deterioration and increased levels of oxidation and nitration were coupled with an accelerated BN depletion rate. This translated to more frequent oil changes (every 1,000 hours), resulting in potential higher spends on lubricants as well as more frequent equipment downtime.

Designed to perform and protect engines in these extremely demanding sour fuel gas conditions, Castrol's technical team recommended the tried and tested Duratec G

The Solution

Duratec G, a modern lubricant formulated to perform in demanding conditions.

Castrol deployed their technical team to engage and study the operating conditions on-site on one of their designated engines. Having assessed the fuel gas composition, reviewed Used Oil Analysis (UOA) Reports and equipment pressures/loads/temperatures of this engine, it was clear that the present lubricant being used was unable to perform in challenging sour fuel gas conditions with over 600ppm (parts per million) of H₂S (Hydrogen Sulfide).

Technical Services Team



35
members



650
years experience

72

Countries supported

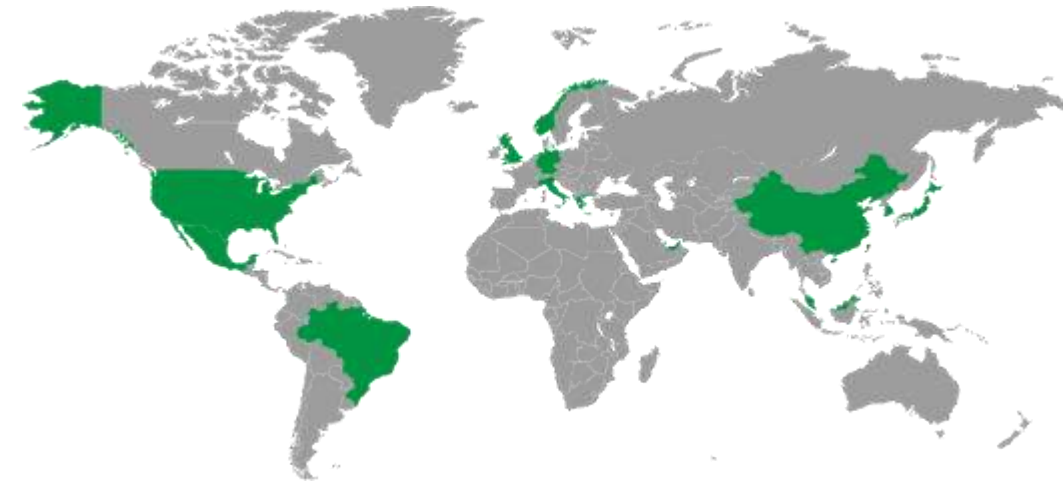


16

Base locations



Member regions: Italy, UK, Dubai, Singapore, Taiwan, Belgium, Korea, Japan, China, Germany, Greece, Norway, Netherlands, USA, Brazil, Mexico



UOA carried out annually

200,000



Ship/Rig visits conducted

200 yearly

Delivery of the technical elements of the Castrol offer to our customers include:

- Understanding the customer needs and building customized offers
- Delivering and Articulating the value of the offer elements to our customers (Value Selling/Smart Gains)
- Working with sales to explore new opportunities with operators and OEMs
- Managing all product and application related technical questions internally and externally

The Results:

Extended drain intervals, optimised cost of operations

The product performance was assessed on one engine at the customer's site. During this entire assessment period, Castrol provided continuous technical support by condition monitoring via Used Oil Analysis (UOA) on a regular basis utilising Castrol's Labcheck Service and monitoring/trending results on Castrol's online Labcheck Portal. This kept the customer informed of the oil's performance.

The analysis reports showed that the performance of Castrol Duratec G continued to be satisfactory over 2,600 hours resisting BN (base number) depletion, Nitration and Oxidation. Improvements were seen on wear metal trends in UOA (Used Oil Analysis) specially for Iron and Aluminum which was a prevailing issue this engine faced with the previous lubricant.



Monitoring
Castrol Lab Portal



The bottom-line:

Customer saves over \$75,000 by SmartGains*

Based on reduced lubricant consumption and filter usage, the SmartGains value for the engine worked out to \$4,700. With reduced wear we would expect longer component life, extended Mean Time Between Failures (MTBF) with reduced Mean Time to Repair (MTTR), thus leading to improved Reliability & Availability statistics.

The success of this performance assessment led to the customer's Asset Management team in extending this SmartGains solution for all 16 Engines at their site. This will translate to SmartGains value of over \$75,000.

Smart Gain Area	Improvement	Customer Cost	Total Created Value per item
Assuming at same cost, avg previous competitor grade cost per oil cycle for clocking 1500 hours	USD 2.35 pl x 625 ltrs initial fill + 10 ltrs per day avg daily sump top up	\$2,938.00	
Total Cost of Duratec G in a complete cycle with oil drain interval of 2500 hours	USD 2.35 pl x 625 ltrs initial fill + 10 ltrs per day avg daily sump top up	\$3,917.00	
No. of oil cycles in a year with previous oil if engine is operated continuously (i.e @8760 hours)	5.84 total oil cycle in a year	\$17,158.00	\$3,432.00
No. of oil cycles in a year with Duratec G if engine is operated continuously (i.e @8760 hours)	3.50 total oil cycle in a year	\$13,726.00	
Total spend on Filters with previous oil / per year / per engine	USD 25 per filter x 10 filters per oil cycle x 5.84 cycles	\$1,460.00	\$585.00
Total spend on Filters on Duratec G / per year / per engine	USD 25 per filter x 10 filters per oil cycle x 3.5 cycles	\$875.00	
Associated Man hour cost per engine on previous competitor grade	Assuming 2 technicians required for oil change and maintenance with avg 6 hours / engine x USD 25 / hour / technician x 5.84 oil cycles	\$1,752.00	\$702.00
Associated Man hour cost per engine on Duratec G	Assuming 2 technicians required for oil change and maintenance with avg 6 hours / engine x USD 25 / hour / technician x 3.5 oil cycles	\$1,050.00	
Total Savings Per Engine	Costs incurred with previous competitor grade - Costs incurred with Duratec G		\$4,719.00
Total Savings Rolling out across fleet of 16 Engines	Total Value Created from this activity	Total	\$75,504.00

* Castrol saves operator over \$75,000 with a Smart Gains Solution that focuses on a lubricant selected to resist the Sour Fuel Gas