

## **Closed Crankcase Ventilation Systems – Quo vadis?**

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Discussions on emissions of combustion engines and their contribution to environmental pollution were focussed on exhaust emissions in the past. Looking at total emissions led to the fact that crankcase emissions also have to be considered as a source of hydrocarbon emissions.

The reaction of legislation was to set strict limits for total emissions which cannot be fulfilled without having sufficient solutions to treat crankcase exhausts. Therefore open crankcase ventilation systems will not be allowed in the future and have to be replaced by highly sophisticated closed systems, what means that there will be no emissions from the crankcase anymore.

Although CCV systems have already proven their capabilities in numerous applications aspects like efficiency and lifetime are always questioned. So some companies refused to implement the technology unless governmental rules forced them to do so. This was caused by a lack of belief in the technology and of course cost reasons.

Today the development in engine technology and further tightening of the emission standards by legislation requires additional efforts to give proper solutions to the engine or vehicle suppliers. The paper shows the state of the art and the current stage of development, how it meets customer requirements today and possible future trends. Based on that, there is a foresight how to cope with the future.