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### **The Use of Plasma Based Catalysts in the Automotive Industry**

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Traditionally catalysts for the automotive industry are being made by using wet chemistry, i.e. PGM's (Platinum Group Metals) are being dissolved in acids and then impregnated onto porous, micron sized substrates. This technology is serving the industry well, however as demand for more fuel efficient cars as well as Hybrid cars increases, this technology begins to start showing limitations. The limitations are: a) Large amounts of precious metals being consumed, resulting in more than USD 10B/yr, which increases the cost of the vehicle and b) wet chemistry based catalysts have the tendency to age, i.e. the precious metal nano particles agglomerate during operation and the catalytic properties of the catalyst diminishes. In the present paper a novel method of manufacturing catalysts is presented. This technology is based on plasma synthesis instead of wet chemistry, resulting in thermally much more stable catalysts that have the potential to overcome above mentioned shortcomings and allow car manufacturers to introduce more fuel efficient cars as well as reducing the amount of precious metals needed. The latter is of particular interest in Hybrid cars: Due to the combination of a combustion engine and electric engine, the exhaust is much colder than in traditional cars, hence much more precious metal per catalytic converter is required. Another aspect discussed in this paper are the challenges related to the introduction of a new and novel technology into the automotive industry.