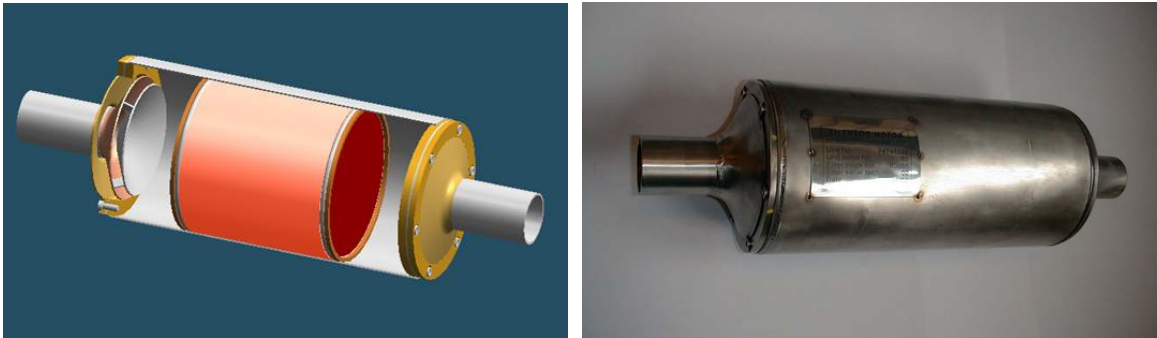


CerFil project

A silicon carbide (SiC)-based extruded monolithic filter, with very high collection efficiency (>99%) for nano-sized particles, low-pressure drop and high material reliability.



A two layer gradient filter structure (a filter membrane with an overlaid highly porous "foamy" layer) functions at the same time as a fine particle separator and as a soot oxidation reactor, through a catalytic coating dispersed into the entire ceramic microstructure. Advanced catalytic coatings for soot oxidation incorporated into the filter microstructure. Two types of novel catalytic coatings will be developed: Physical Vapour Deposition (PVD)-based nano-scale catalysts and Supported Liquid Phase (SLP) catalysts. Adaptive control of flow direction in the ceramic filter based on comprehensive computer modelling tools, extended beyond the state-of-the-art for the design and optimisation of soot particle filter systems. The project is structured around four work packages: filter development, development of catalytic coatings, testing and characterisation, and modelling and simulation.

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- JOHNSON MATTHEY PLC, United Kingdom
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Title: "Functionalized ceramic membrane filter for highly efficient soot particle removal"

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