

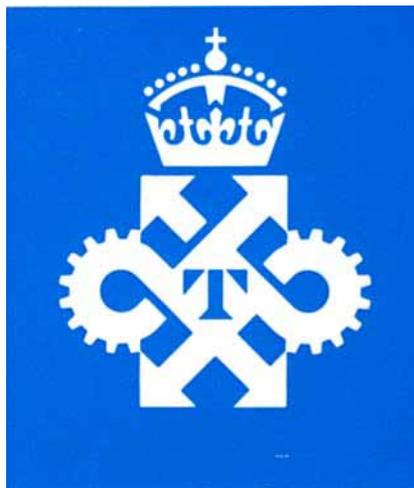
The Queen's Award for Technological Achievement 1977

PLATINUM ALLOY CATALYSTS FOR EXHAUST CONTROL

The valuable work of the Johnson Matthey Research Centre in developing platinum alloy catalyst systems for the control of air pollution caused by vehicle exhaust systems has now been recognised by the granting of the Queen's Award for Technological Achievement 1977. This award, which is given for "a significant advance, leading to increased efficiency, in the application of technology to a production or development process in British industry or the production for sales of goods which incorporate new and advanced technological qualities", is made only after an outstanding innovation has achieved commercial success. To assist the award assessors in understanding this innovation two articles on automobile emission control which have previously appeared in this Journal were provided for them.

Having already devised and produced platinum metal catalyst systems for the control of industrial air pollution the Johnson Matthey Research Centre was able to anticipate and respond quickly to the world wide concern which arose from a growing realisation of the harmful effects of air pollution caused by motor vehicle exhaust. Two platinum alloy autocatalyst systems were developed for the control of carbon monoxide and hydrocarbons, and for nitrogen oxide emissions, and clearly demonstrated the feasibility of platinum alloy catalysts achieving the very stringent requirements of United States legislation without impairing fuel economy.

This new technology was used to advise car manufacturers in the U.K., U.S.A., mainland Europe and Japan in the use of platinum alloy catalyst systems for emission control. In the U.K. Johnson Matthey worked with Leyland Cars and Rolls-Royce Motors



to develop systems for use on vehicles being exported to the U.S.A.

In addition to the design of autocatalyst systems Johnson Matthey has developed continuous processes for the production of these systems. Johnson Matthey Chemicals Limited in the U.K. and Matthey Bishop Incorporated in the U.S.A. have been in full scale production of the systems for the U.S.A. and European markets since May 1974. Purchasing contracts for the supply of catalyst systems to Ford (U.S.A.), Volkswagen, British Leyland and Rolls-Royce Motors were concluded in 1973/74. Those cars fitted with catalyst systems exported from the U.K. to U.S.A. by Leyland Cars and Rolls-Royce, since model year 1975, have all used catalysts manufactured by Johnson Matthey Chemicals Limited.

It is anticipated that platinum alloy autocatalyst technology initially developed for the United States market will, in future, be used on cars sold in Europe and exported to Japan.