



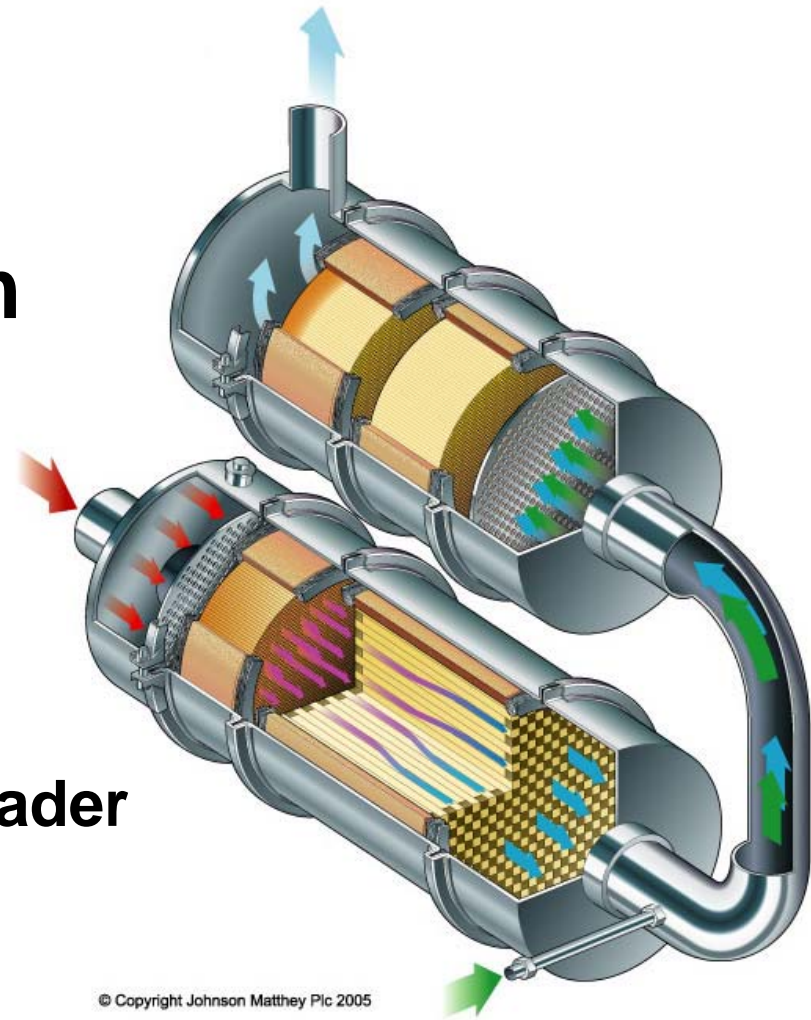
Johnson Matthey
Catalysts

Project Summary

February 13, 2008

Johnson Matthey Retrofit SCRT[®] System

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ENVIRONMENTAL CATALYSTS AND TECHNOLOGIES



Project Objectives



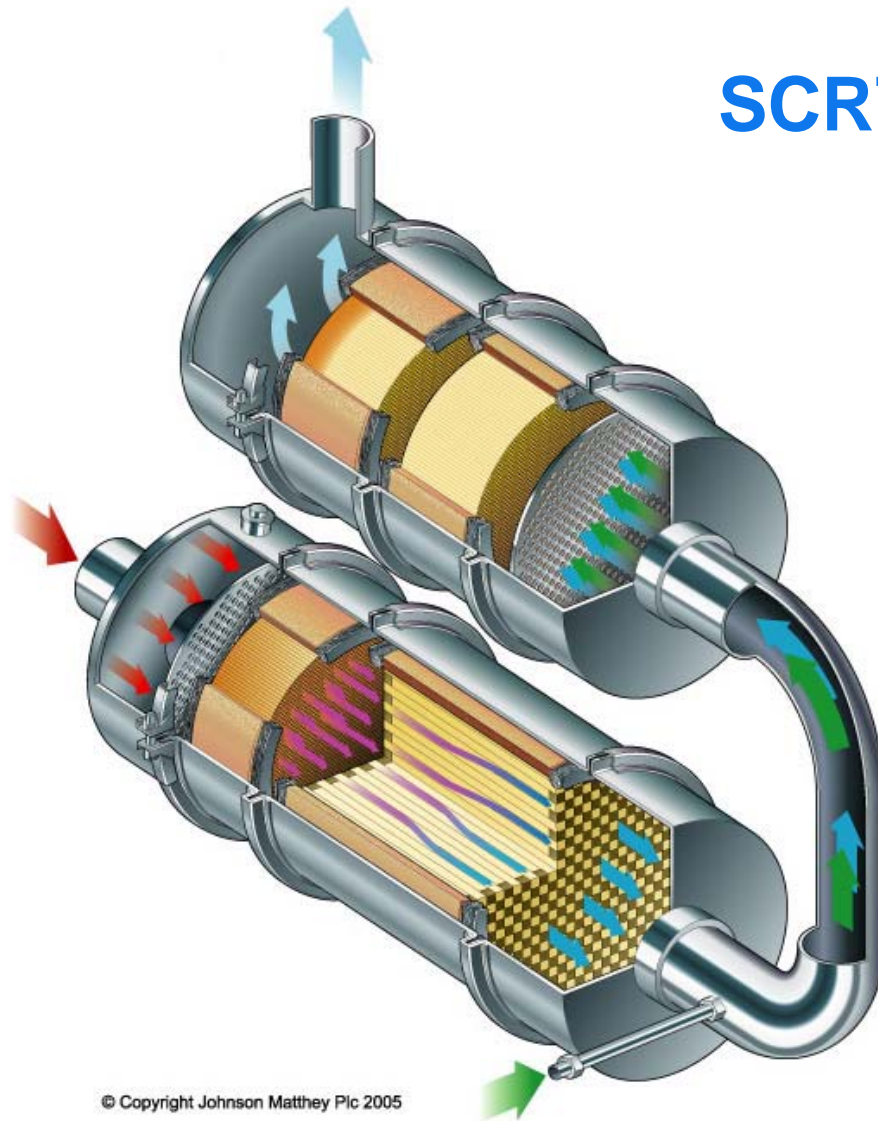
- Develop a retrofit SCRT[®] system to reduce PM+NOx emissions from:
 - MY1998-2002 On-road 4.0 g/bhp-hr NOx engines
 - MY2002-2006 On-road 2.5 g/bhp-hr NOx engines
 - Tier I, II and III Off-road engines
- Emission reduction goals:
 - NOx 60-90%
 - PM >85%
 - HC >90%
 - CO >90%



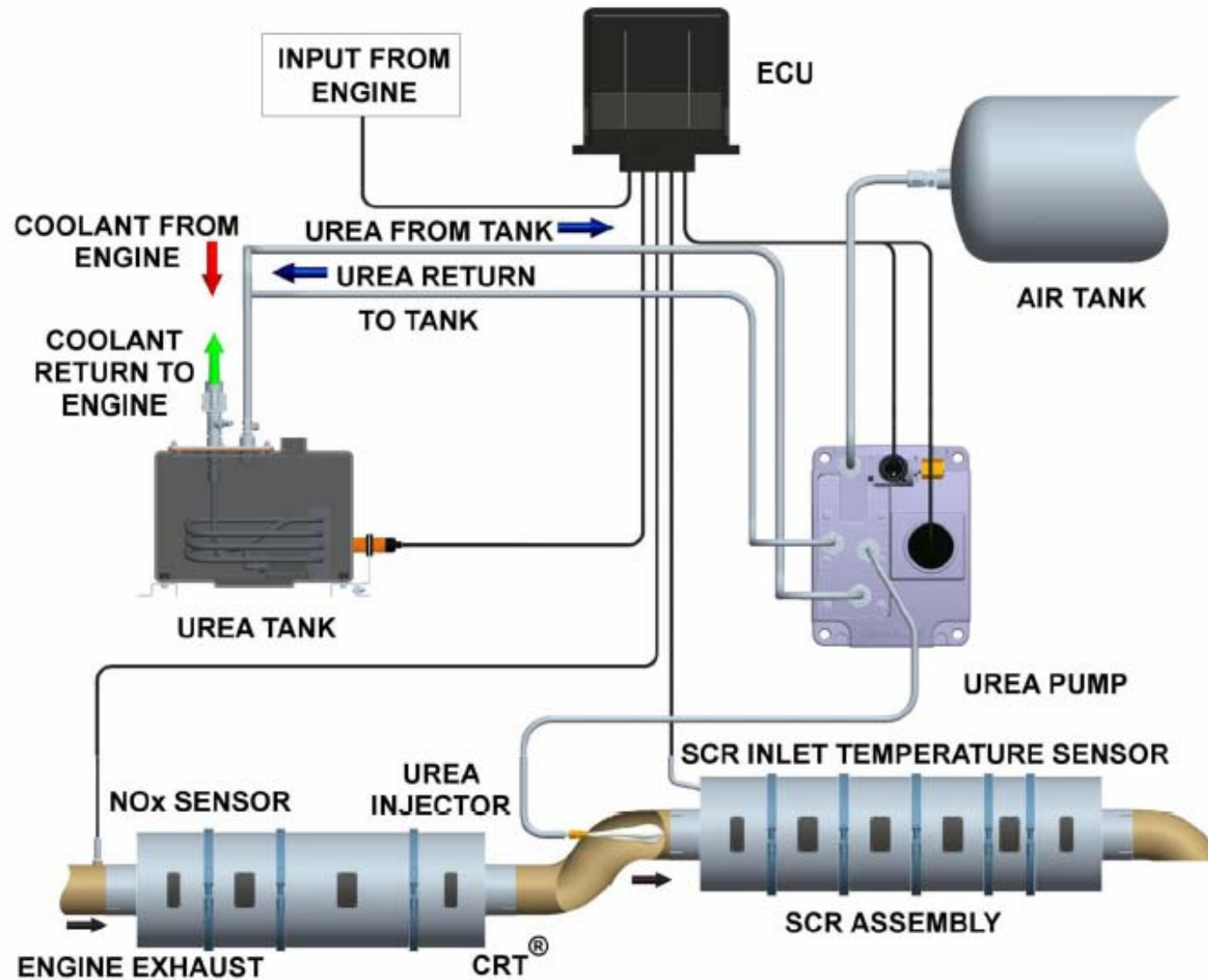
Johnson Matthey SCRT[®] System



SCRT = CRT + SCR



SCRT System Diagram



System Durability



- **14** field trials completed in US, **40** more in next 6 months
- Over **95%** reliability achieved
- Excellent customer reviews – references available upon request
- Keys to JM's durability successes:
 - Vast experience base – SCRT systems operating in Europe, US and Asia
 - Use of proven components
 - Close interaction with engine OE's on 2010 systems

