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Thomas Swan & Co. Ltd.

Title: Sustainability in the chemical manufacturing industry from an Small & Medium-sized Enterprises(SME)'s perspective

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Abstract for conference

'Sustainability' and 'Green Chemistry' are terms that are used by many academics and companies working in the chemical manufacturing sector. But how do these terms translate from the ideals written about in numerous journal articles into the reality of an SME in this sector?

Thomas Swan & Co. Ltd. is a specialty chemical manufacturer based in the North East of the UK. Currently in its 90th year of commercial operation with a reputation for innovation, Thomas Swan manufactures over 100 products to diverse industries such coatings, tyre and synthetic rubber to personal care. The range of chemistries practised is large and diverse from polymerisations (solution, emulsion) to nitrations to the production of single wall carbon nanotubes, graphene and 2D boron nitride. With this wide and diverse range of chemistries, technologies and capabilities as our unique selling point, how should concepts such as sustainability and green chemistry be applied?

Case studies will be presented that give examples of the implementation of sustainable strategies including the use of Super Critical Fluid Technology (this covers a number of areas including process intensification and green chemistry), energy efficiency (installation of anaerobic digestion plant), use of green feedstocks and use of renewable feedstocks. The studies highlight that commercial viability is the pre-requisite for success, using sustainability and green chemistry where practical.