



NORTH CENTRAL INDIANA
BUSINESS ASSISTANCE CENTER, INC.

TECHNOLOGY HOT SHEET

June 2009

SUCCESS STORY

Notre Dame Patent: "Catalytic Converter"

In September 2008, NCI approached an international manufacturer of catalytic converters with new NDU technology. Subsequent meetings with the company resulted in agreements to fund additional research at NDU in order to prove the benefit of this technology in actual use.

Assuming the additional research supports the technology, it will be used for an entirely new line of diesel catalytic converters which will be produced at a north central Indiana manufacturing plant.

Glass Catalyst for Diesel Particulate Filters

"Soot produced from the combustion of diesel engines is oxidized at high temperatures in filters utilizing precious metals. While not only being expensive, these high temperatures rob an engine of performance. In addition, exhaust standards are becoming more stringent requiring more efficient filters. Researchers at the University of Notre Dame have discovered a new catalyst technology which is capable of promoting soot oxidation at lower temperatures without the cost or complication of current systems. A catalyst consisting of alkali ions, particularly potassium (K) can be used to facilitate the removal of particulate carbon and hydrocarbon material from engine exhaust. Key to this technology's success is the way in which the alkali ions are bound in a lattice, either glass or crystalline. The catalyst's specific structure releases potassium ions to control the oxidation reaction. This passive approach achieves the thermal stability and durability required in diesel filter while improving particulate removal performance. This innovation allows for alternative construction of diesel particulate filter utilizing cheaper and more effective oxidizing agents. Combustion temperatures required for oxidation of exhaust particulates can be lowered and therefore reduce the stress and wear on engine equipment."

HOT TECHNOLOGY OF THE MONTH

NCI is working with a manufacturer of commercial size wind turbines to locate the manufacture of 33KW towers in this region. We are competing with Ohio and Michigan for this plant location. If we are successful, component materials for this turbine will also be locally sourced.

One of the universities we are working with has a major technology improvement in turbine efficiencies which will revolutionize this global industry. We would like this technology to be developed and used within the region and if we are successful in locating this turbine manufacturer locally, we will work with the University to develop its efficiency technology with this company.

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