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UK Partnerships

Nanotech-based Topasol Partners with Major Coatings Manufacturer

In the photo: UK researcher Uschi Graham, front, and two of Topasol's senior scientists, Ken Partymiller and Rajesh Khatri, test scratch resistance of their coatings.

UK Center for Applied Energy Research scientist Uschi Graham, who moved her company from UK's ASTeCC campus incubator to UK's Coldstream Research Campus last year, is partnering with large coatings manufacturer PPG to develop nanoparticle-based additives designed to enhance a range of coating materials.

The new low gloss and abrasion resistant nanocoating will have applications in solar cells, LCD displays, and paper and pipe substrates, as well as automotive and aerospace top coats.



Topasol's international R&D team of four Ph.D.s, lead by principal research scientist Rajesh Khatri, also developed a breakthrough design on impact sensor nanocoatings for aircraft exteriors for the Navy. Other projects include developing smart coating systems that have the ability for visual impact recognition, significantly improving the detection of stress zones.

Lexmark and UK Begin New Chapter in R&D Partnership

In the photo: One of Lexmark's newest printers. Photo courtesy of Lexmark International Inc.

Lexmark officials and UK, led by the Office for Commercialization & Economic Development and the Office for Sponsored Projects Administration, have forged a relationship to work over the long term to create opportunities at UK for new projects in engineering and marketing. Lexmark and UK have been working together on research projects since 1988.



"We are committed to our role of partnering with business and industry as they compete in the global marketplace," said UK President Lee T. Todd Jr. "Lexmark has been an important partner with UK for quite some time and we are pleased that our relationship continues to grow."

"We are excited about the possibilities that will result from this partnership," said Deb MacKay, Lexmark Vice President, Research & Development. "We anticipate that the collaboration will bring about the innovation that comes with fresh perspective, will accelerate both learning and delivery to the marketplace, and will lead to advancements in technologies that are adjacent to our technology portfolio. Linking these two research entities will benefit Lexmark, UK and the Commonwealth."

Currently there are two R&D projects under way in engineering. The first partners Dr. Fuquian Yang in Chemical and Materials Engineering and Dr. Yimin Guan of Lexmark who are studying the mechanical properties of thin film materials used in inkjet print heads. Dr. William Smith in Electrical and Computer Engineering and Dr. Keith Hardin from Lexmark are looking at the source and significance of electromagnetic radiated emissions from consumer products.

"Our new agreement provides a better framework to facilitate collaboration on a timely basis," said UK Vice President for Commercialization & Economic Development Len Heller. "We are also establishing a seminar series where our researchers will have an opportunity to hear from Lexmark researchers and vice versa."

"Lexmark and the University of Kentucky have had a long and fruitful relationship, driven in part by the proximity of the two organizations, but also by the desire from both groups to advance technology and understanding. This new relationship will take advantage of the strengths from both groups – advanced technology and research from UK and commercialization success from Lexmark. My hope and expectation is that these are the first

co-development projects of many to come," said John Schlumpf, Lexmark Vice President, Product Delivery.

The UK Gatton College of Business and Economics will also work on collaborative projects with Lexmark.

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