



Company: LMK Thermosafe

Knowledge Transfer Partnership: Novel conductive polymer composites with pyro-resistive properties.

Queen Mary formed an award-winning Knowledge Transfer Partnership (KTP) with LMK Thermosafe to develop conductive polymer composites for use in specialist industrial heating applications. LMK Thermosafe is a world leader in the design and manufacture of industrial heaters and flexible heating jackets for containers and pipes. The company's products have been supplied to over 70 countries worldwide since 1985 and are used by major companies including Unilever, GlaxoSmithKlein, Astra Zeneca, Dunlop, BP and Procter & Gamble. LMK partnered with Queen Mary, which offered expertise in polymer science and technology.

Challenge

LMK wanted to expand its product range to offer more bespoke container, vessel and pipe heating solutions beyond its core drum and intermediate bulk container (IBC) markets.

• 'GrafHeat Base Heaters' developed for industrial-scale applications requiring heating from below.

The partnership has also allowed LMK to develop in-house R&D capacity, employing the Associate and publishing

in international peer-reviewed journals. These outputs were celebrated at the KTP Best of the Best Awards 2019, where the project was recognised with the Engineering Excellence Award.

Results

With the help of the Knowledge Transfer Partnership (KTP), the company developed a novel conductive polymer composite that has allowed LMK to expand its product range and offer a range of bespoke heating solutions. Since the conclusion of the KTP, LMK's sales and profits have both increased, and the company have been granted worldwide patents on the technology developed during the KTP, including:

• 'GrafHeat Cable Heating Jackets' developed especially for applications requiring cable or pipe heating; and



The academic staff at Queen Mary has been excellent in its ability to understand our "real-world" problems and through the framework of a KTP helped us to develop innovative solutions beyond our initial expectations."



MARK NEWTON
COMPANY LEAD,
MANAGING DIRECTOR,
LMK THERMOSAFE



Doing a KTP provided me a first-hand experience of working in industry. In my project, I was developing lab-scale research into an industrial product. The project provided a lot of new challenges specially upscaling and developing an industrial product."



DR HARSHIT PORWAL
BUSINESS UNIT MANAGER,
LMK THERMOSAFE
(FORMER KTP ASSOCIATE)

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Collaborate with us

