

The client

We are working with a **designer and manufacturer of portable electrical devices** for use by consumers in various scenarios, including when at home, work, or travelling. A number of these **devices use heating elements**, and currently require protective cases to ensure the consumer doesn't come into direct contact with a heat source or heated outer surface. However, this can make the devices bulky, heavy and hard to use, negatively impacting the user experience. The client wishes to protect consumers from unintended access to hot surfaces, by insulating the heat source and / or cooling the external surfaces touched by the user.

The search

The client therefore wishes to identify potential **technology solutions that could enable safe-to-touch surfaces**, and potentially increase heating efficiency by reducing heat loss.

Potential solutions could be found in electronic devices, medical (surgical), food service, consumer appliances (home, beauty and skincare), industrial, transportation (fuel cells) and aerospace applications, and include (but not limited to) the following: -

- Thermal insulation and protection (e.g. surface coatings)
- Vacuum insulation
- Ultra-thin materials, e.g. aerogels
- Heat dissipation devices
- Phase change materials
- Forced Convection, e.g. ultra-miniature cooling fans

In order to allow the client to minimise any external casing and reduce the size and/or weight of the product, potential solutions should have the following technical characteristics: -

- Thin (less than 3mm thick)
- Lightweight (for use in handheld devices)
- Low thermal conductivity
- Ability to withstand temperatures of up to 200°C
- Suitable for use with materials such as high temperature plastics and aluminium

What the client can offer

The client has a well-established research and development team and is keen to collaborate with appropriate suppliers. They are able to provide testing of suitable materials or technical solutions, and is keen to learn of new technical solutions. The client already offers a wide range of products to worldwide markets and therefore this represents an excellent business opportunity for existing and new technology partners.

Please provide details of any potential technology partner or service provider to Diane Kolonko via diane@strategicallies.co.uk