

Client overview

The client was a global manufacturer of electrical devices and some of these products contained heating elements which operated at high temperatures of up to 200°C. Due to this, there was a need to include protective cases to their current devices so as to ensure that the consumer did not come into direct contact with a heat source or a heated outer surface. However, this made the devices bulky, heavy and hard to use, negatively impacting the user experience. The client wished 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

SAL initiated a technology search (via secondary research and SAL's network), to identify technologies that would enable safe-to-touch surfaces, and potentially increase heating efficiency by reducing heat loss. Applicable solutions in electronic devices, medical (surgical), food service, consumer appliances (home, beauty and skincare), industrial, transportation (fuel cells) and aerospace sectors were explored. In order to minimise

the need for any external casing and to reduce the size and/or weight of the product, technology solutions would need to be less than 3mm thick and lightweight. Thermal management technologies identified to have potential of meeting the client's needs include aerogels, thermal interface materials e.g. phase change materials, forced convection (e.g. ultra miniature cooling fans), heat pipes, heat shields, vapour chambers, thermal insulation films/foams (e.g. silica-based microporous panels, vacuum insulation panels, silicone foam).

Outcome

SAL presented 18 companies to the client - This included providing a detailed overview of the technologies offered by each of the companies and the organisation's development and manufacturing capabilities along with supporting literature.

The client took up direct contact with 7 of the companies presented by SAL.

"....a number of promising opportunities to follow up on"

"good insightful search - almost all opportunities have been relevant"

"thanks for effort and quality of outputs, been great, well worth it"

"thoroughly impressed with the quality and speed done"