The school of fashion and textiles at the Royal Melbourne Institute of Technology is aiming to use a newly opened laboratory to help develop Australia's own eco-label for clothing.



New lab could lead to new label

A new advanced textile materials laboratory costing $2 million has opened at the School of Fashion and Textiles at the Royal Melbourne Institute of Technology (RMIT), Australia. The new unit, which features equipment for research and testing, including gas analysis, spectrophotometry and devices to measure the moisture and air permeability of different textiles, could play an important role in the future of the Australian textile industry as demand for environmentally sensitive materials and clothing continues to increase.

Researchers and students will also have access to a 'Weather-Ometer' so they can simulate the impact of the different temperatures and other weather conditions. Another important feature is a thermal mannequin that will allow the school to simulate the skin response of human bodies to different textiles. The new equipment will be used to teach students about the impurities in textiles as well as the durability and performance of products using alternative resources, and to apply this knowledge in designing 'green' textile options. Analysing carbon emissions, water quality, contamination and energy management in textile and garment designs will be part of this.

Head of the school of fashion and textiles, Keith Cowlishaw, says sustainability and green certification are the future for the disciplines the school teaches, and that the new laboratory will help Australia's textile industry develop products that are both high-performing and environmentally friendly. "We are focusing on performance apparel," he explains, "and on the analysis of contaminants in textile materials and the establishment of a testing regime to inform environmental textile and clothing standards in Australia."

There is plenty of awareness in Australia—with its hot climate and high proportion of people with fair skin and love of the great outdoors—of the need for sun protection.

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He explains that the there will be two elements to the main role the new laboratory will play. For some time, researchers there have been looking closely at comfort questions, centring on moisture transportation. This will continue, with physical and chemical analysis of garments' ability to keep wearers dry and comfortable taking place at the facility. Linked to this, Mr Cowlishaw explains, will be the background academic and scientific work required to establish an Australian label for ecological clothing. "Australia is well behind Europe on this," he continues, "but we have the opportunity here to develop the thought process for an eco-label. Europe has a plethora of labels and serious legislative requirements governing dangerous substances such as formaldehyde. We have none of that, not even an industry pact to self-monitor. There is growing awareness and I believe we'll move into legislation and practice rapidly."

Consumer awareness

On the question of growing awareness of environmental issues, he points to sun protection as the most obvious example. There is "enormous consumer awareness" of skin cancer, he says, with few Australians venturing anywhere in the summer without sun-screen and a hat. Incidences of skin cancer in Australia are high. The Cancer Council for the Australian Capital Territory in Canberra says that at least two-thirds of Australians are likely to develop skin cancer by the age of 70 and that the disease is currently claiming 1,700 lives across the country every year. The organisation puts this down to Australia's climate, its proximity to the equator, the high proportion of fair-skinned people in its population and their love of the great outdoors.

Clothing can help protect Australians from the effects of ultraviolet radiation from the sun and can, if they are made in a cleaner, greener way, help Australia avoid making the situation worse by causing further harm to its environment—"for carbon emissions per capita we're right up there," Mr Cowlishaw says. He wants his students to increase their knowledge of these issues and is convinced the new laboratory will be a big help. Their understanding of the strengths and weaknesses of the different textile substrates they come into contact with—the school is interested in them all and is locked into none—will improve when they use the equipment in the laboratory to examine construction, test tensile strength and so on.

The head of school places emphasis on the need for strong links to the textile and apparel industry, which is less than easy in Australia as the country, since the removal of quotas on clothing imports, has had "almost a decade of very little production". However, in his opinion,



A thermal mannequin at the new advanced textile materials laboratory will allow the school of fashion and textiles at RMIT to simulate the skin response of human bodies to different textiles.

RMIT

Australian firms in the technical textile sector have "a high level of confidence". The school's independence and concentration on educational work allows it to have relationships across the board. As a result, what he calls "an enormous number of companies" attended the formal launch of the new laboratory at the end of May, which greatly pleased Mr Cowlishaw. He adds: "We've had good publicity over this and it was good to see so many companies come to the launch. What is even better is that they are now coming to us with their hands in their pockets." What he means is that some of the manufacturers remaining in Australia with an interest in performance and eco-friendly textiles are preparing to invest in the new facility as an important source of research for them as they develop new materials and garments.

"This will not go away," Keith Cowlishaw concludes. "It's about harbouring and husbanding resources and the social benefits that go with that. We're embedding that into our students. Things have quietened down politically since [the 2009 United Nations Climate Change Conference in] Copenhagen but our industry is still talking about this and engaging in initiatives such as energy and water management. Water, in particular, is dynamite here, with drought continuing in many parts of Australia. This has a clear impact on people such as dyeing companies. It's not going away. Whether you believe in climate change or not, we simply have to manage the earth's resources better."