

# product development

The aim of the Product Development portfolio is to develop innovative products made from Australian Merino wool, based on proposals developed collaboratively in business-to-business relationships with textile manufacturers and retail partners.

The group works with research organisations in targeted science to develop new and improved products for the fashion apparel, sportswear and other markets. The group also works to develop new fundamental knowledge about the properties of wool fibre, and develop processes that may lead to new Merino fibre yarns and fabrics.







## Key outcomes and achievements

### Fine ends wool launched at Pitti Filati

Fine ends yarns and knitwear were launched by high profile spinner Zegna Baruffa at the Pitti Filati fashion and trade show. The spinner is a driver of fashion in knitwear and has worked closely with AWI and the Department of Agriculture Western Australia to launch yarns that are naturally softer due to careful wool selection. A major feature of Pitti Filati was the media event surrounding the launch which is being heavily sampled and styled by retailers to be on shelves in the northern 2007 winter.

Designed for use in underwear, t-shirts and next-to-skin evening wear, fine ends wool will help re-define the use of wool in the textile industry. The response from consumers during testing was extremely positive, with 8 out of 10 females and 9 out of 10 males finding it more comfortable against the skin than comparable wool fabrics.

### Whitening wool and wool blends

Through research funded by AWI during 2005/06, CSIRO Textile and Fibre Technology and US specialty materials company Rohm and Haas adapted a paper-bleaching method to whiten wool and wool-blends. The new process delivers 10 to 20 per cent better results than existing bleaching processes with no additional fibre quality damage. The work has been a two-pronged approach: pure wool work was undertaken first, followed by wool-blend research. The pure wool process has been tested commercially by DPK in Sydney and Australian Country Spinners in Wangaratta. Wool-blend testing is also underway.

### Softwool to hit retail shelves

The development of a special 'Softwool' yarn is set to have sweaters on the shelves of major international retailers in time for the upcoming 2006 northern hemisphere winter. AWI's commercial partners in the project are Chinese companies South Ocean Knitting, which is the world's largest knitwear manufacturer, Novetex, which is one of the world's major spinners and Reward Ningbo, China's largest top maker. The softwool yarn has been developed by treating post scoured/carbonised wool with a softening agent called Basolan that was traditionally only available for worsted knitwear yarns.

## Highlights

- The use of Australian Merino-based fabrics in sports and activewear was highlighted at ISPO, the world's leading international sportswear tradeshow, with the objective of building Australian Merino wool's share of the US\$50 billion per year sportswear market.
- A new blended fabric 'MerinoActive' containing 35 per cent Australian Merino wool blended with polyester was launched by AWI and Chinese manufacturer Haitian Textile Group.
- Long drying times for Merino wool knitwear are a feature of the past due to 'Quick Dry Merino' developed by AWI and CSIRO – the product is being taken up by sports brands for release in stores in the winter of 2007.
- High-twist 100 per cent Australian Merino suits, which are cooler than traditional wool suits and have better 'breathability' and stretch, were developed and launched in Japan.
- Researchers have adapted a paper-bleaching method to whiten wool and wool-blends with 10 to 20 per cent better results than existing bleaching processes.
- AWI's 'Wool on the Web' website – [www.woolontheweb.com.au](http://www.woolontheweb.com.au) – has proved valuable to the global apparel textile and garment industry during 2005/06.



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### Merino 'cool' suits launched

High-twist 100 per cent Merino suits, which are cooler than traditional wool suits and have better 'breathability' and stretch, were developed by AWI and commercial partner Nippon Keori Kaisha – one of Japan's biggest spinner and weavers – and launched by Japanese retailer Aoyama. The suits have been made using high-twist yarn, manufactured with a relatively high number of turns per inch. The high-twist suits are the first stage in a project, started in September 2005, to develop cooler suits. Using a ceramic filament in the yarn structure, AWI, Nippon Keori Kaisha and Aoyama are working together to create a yarn structure to make wool even cooler and able to 'breathe' even better.

### Keeping garments fresh for longer

A new technology 'Nano-Tech AB' offers a unique solution to bacterial growth and keeping garments fresh for longer. Fine silver dust, in the form of nano size particles, is applied to sliver, yarn or finished garments. The silver particles bond strongly to Merino fibres without the need for binders. The end result is a permanent anti bacterial finish that lasts for the life of the garment. Scientific tests have demonstrated that Nano-Tech AB is associated with a 99.9 per cent reduction in the growth of *Staphylococcus aureus* and *Klebsiella pneumoniae*, two of the most common harmful bacteria for humans. The technology is ideal for next to your skin garments such as socks, sports underwear, men's polo shirts and women's knitwear.



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### Washed out effect for the young fashion market

While natural fading may be something that has traditionally been avoided, the 'washed out' effect is increasingly sought after by apparel brands aimed at the young fashion market. Testing has shown that washed out effects are possible in dyed knitted wool fabrics. A range of different procedures using enzyme treatments on dyed fabrics are now in progress to perfect that naturally faded look. The end result will be a fabric that will wash out and resist rubbing while at the same time delivering the softness and touch of Australian Merino wool.

- 1 Resources are being provided to wool processors to help them use Australian Merino wool.
- 2 AWI is funding the development of whiter, brighter and more colour-stable wools.
- 3 An example of 100 per cent Australian Merino sportswear developed and marketed by AWI.

## CASE STUDY



### MerinoActive, a new light wool-blend fabric

AWI and Chinese manufacturer Haitian Textile Group launched in March 2006 a new blended fabric 'MerinoActive' containing up to 35 per cent Australian Merino wool content (21 to 22 micron) blended with polyester.

Haitian president Qiming Wang is enthusiastic about the opportunities Australian Merino wool offers his business.

"The Chinese synthetic fleece market is very crowded and competitive. MerinoActive, with the wool content, will give us a point of difference, improve quality and provide a new marketing point for us," Mr Wang said.

"The same polyester garment needs to be a lot thicker to provide the same warmth as the Merino wool-blend garment."

He said MerinoActive will initially be targeted at the outdoor clothing market, with further opportunities in accessories, linings and bedding for the hospitality sector.

The Chinese manufacturer, which produces about 18 million kilograms of synthetic fabric and four million garments a year, hopes to ultimately incorporate Australian Merino wool into 10 per cent of its products.

Product developers, designers, fabric buyers and key trade media were among the guests who attended the MerinoActive fabric launch in March 2006 at the Intertextile international trade show in Beijing.

"We hope to have an opportunity to work with AWI on many projects in the future"

Mr Qiming Wang, President of Haitian Textile Group

**Top:** The launch of Haitian's new MerinoActive range in Beijing, China.



### Modern Merino with the vintage look

By using a range of 'neps' (small knots of tangled fibres) and 'slubs' (uneven yarn), we can now change the way Merino fabric looks and feels, from small spots of colour and texture through to larger bolder spots of colour and even more irregular texture, giving the fabric a 'vintage' look and feel. To make this new fabric we randomly incorporate long-tail neps to shrink and melt bond fibre and then subject this yarn to heat treatment. This has the effect of contracting the yarn to incorporate the nep area, providing a unique aesthetic and textural effect.

### Quick-drying Merino wool

A new quick-drying Merino wool fabric is about to remove another perceived advantage of synthetics over wool and give clothing manufacturers further incentive to include Merino wool in their products. Quick Dry Merino (QDM) repels water and dries at the same rate as, or faster than, polyester and acrylic knitwear. It holds only one third as much water after washing, and drip-dries in a third of the time. QDM was developed and commercialised in under six months by researchers at CSIRO Textile and Fibre Technology with funding from AWI. The fabric gets its hydrophobic properties from a polymer application originally used as a stain blocker.

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### Non-wovens weave their way into China

AWI is developing non-woven, wool-blend skincare cosmetic pads and garment interlining in partnership with China's leading non-woven manufacturer, Xinlong. Man-made fibres such as viscose are normally used in a blend with cotton to make cosmetic pads, but the new product uses 18.5-micron wool blended with viscose. Natural products often have appeal compared with man-made fibres, while wool-blend products can be gentler on sensitive skin. After commercialisation of the cosmetic pads, AWI will continue working with Xinlong on non-woven, wool-blend interlining for apparel.

### Technical support for wool processors

AWI's 'Wool on the Web' website ([www.woolontheweb.com.au](http://www.woolontheweb.com.au)) has proved valuable to the global apparel textile and garment industry during 2005/06. With a doubling of visitors from January 2006, a global audience and ever increasing information for wool processors, 'Wool on the Web' is the resource many key players in this vital area have been demanding. The website recorded over 35,000 hits during 2005/06. 'Wool on the Web' provides professional technical information on processing Australian Merino wool, how to purchase Australian Merino wool and has links to key vendors plus a free limited technical support service. A Chinese language version of the site ([www.woolontheweb.com.cn](http://www.woolontheweb.com.cn)) is also available.

### Arresting technical skills shortage

AWI joined forces with the International Fibre Centre, the Australian Wool Education Trust and CSIRO to design a unique wool industry training program. The program will be piloted at the Australian Wool Textile Training Centre – to be established at CSIRO's textile division in Geelong – in September 2006 and 2007. Courses offered will include: buying and exporting Australian wool, advanced quality management systems – from fleece to fabric, contemporary wool dyeing and finishing, mill management practices – managing a modern wool textile enterprise, and Australian wool – knowledge for designers and retailers. For further information on the courses, visit [www.awttc.com.au](http://www.awttc.com.au) or [www.awttc.com.cn](http://www.awttc.com.cn) (Chinese language).



- 1 2 3 AWI is putting a lot of effort into getting Australian Merino a slice of the US\$50 billion a year sportswear market.
- 4 AWI attends international trade shows to showcase the versatile properties of modern fabrics made from Australian Merino wool.

## CASE STUDY



### Merino hits the sportswear market

AWI's goal of re-entering the synthetics-dominated sportswear market moved a step closer with the exhibiting of its new Merino-based sportswear innovations at ISPO, the world's leading international sportswear tradeshow.

Major sportswear and manufacturing brands – such as Adidas, Nike, Helly Hansen, North Face and Gortex – attended the exhibition in Munich, Germany, making it the ideal location to launch the new fabric range.

The sportswear exhibited by AWI was made from blends of 55 to 100 per cent Merino wool. With the help of Australian industry partners, AWI showcased a concept range for women and men, including next-to-skin base layers, medium layers plus outerwear hooded tops.

The Merino range meets key demands for temperature and moisture management, while retaining specific key elements in sportswear products such as lightweight feel, stretch and compression.

Merino also has good UV protection, anti-odour properties, the ability to act as a thermal buffer and a natural feel that other fibres can find difficult to match – all important qualities for outdoor pursuits.

Wool is traditionally associated with dark, winter colours but we now have the opportunity to challenge those traditions and offer Merino products in brighter shades, ones which are able to compete with other fibres and allow us to enter spring and summer sports markets.

"The market for sportswear is huge; about US\$50 billion a year, and what is 'cool' for sports heroes eventually filters down to mass-market fashion."

**Top:** Plenty of interest was shown in AWI's new Merino-based sportswear innovations exhibited at ISPO, the world's leading international sportswear tradeshow.

# product marketing

The Product Marketing portfolio provides a vital link between the research and development chain and the market by forming direct business relationships to commercialise wool innovations and build the demand for Australian Merino wool. This group manages AWI's global network which provides the in-country presence required to deliver on the above objective.

AWI also plays a key role in working with industry and Government to increase market access into Australian wool/textile importing countries, and providing shareholders and industry with the latest market information.





## Highlights

- The machine washable wool-blend suit was launched in China by AWI and the Heilan Group, with a sales target of 100,000 per year after two years.
- A range of new fabrics was showcased by AWI at one of China's largest textile trade fairs 'Spin Expo', including new super soft and lightweight fabrics, together with a polyester/wool blend fabric.
- AWI opened new overseas offices to help it develop direct business relationships with manufacturers, retailers and designers operating in key markets.
- AWI's merinoinnovation.com website was launched to help the global apparel industry to use Australian Merino wool and AWI innovations.
- In collaboration with retailer Purely Merino, AWI launched a new range of Australian Merino wool clothing designed to cater to the needs of travelers.
- A new AWI China Free Trade Committee was established and met with China's key government and wool industry representatives to elevate the importance of wool in the negotiations between the two countries.

## Key outcomes and achievements

### New strategically located AWI offices

AWI opened new offices in Shanghai and Hong Kong in China and in New Delhi, India to help it develop direct business relationships with manufacturers, retailers and designers operating in the key markets. Shanghai is the hub of China's textile and apparel manufacturing industry, while India is a major emerging market. The establishment of these offices is part of AWI's strategy to put an increased focus on the commercialisation and marketing of Australian Merino wool products with global business partners. The aim of this strategy is primarily to increase the global demand for Australian Merino wool.

### Purely Merino range launched

AWI in collaboration with retailer Purely Merino launched a new range of Australian Merino wool clothing – labelled 'Red Island' – designed to cater to the needs of travellers. Made from Australian Merino wool, Red Island capitalises on the quick dry, lightweight nature of the fibre. The range includes men's and women's t-shirts, polo shirts and zip front heavyweight tops and will join the existing range of Merino wool items available in Purely Merino stores. The Red Island range is the result of a direct business relationship, which coupled with product development delivers results for the consumer and, ultimately, the Australian woolgrower.



### India emerges as a significant new market

AWI worked with Indian manufacturers on a range of new products, such as easy-care shawls and suits and linen-blended suits, to appeal to the rapidly changing demographics and economic growth in India. Through its partner in India, AWI released the first easy-care shawls – about half of India's existing shawl production is expected to convert to easy-care production. Working with Jayashree Textiles, one of India's leading linen clothing manufacturers, AWI created a 50:50 wool/linen fabric, ideal for men's and women's clothing. A machine-washable suit, being developed with Indian manufacturer Madura Garments, will be targeted at the sub-continent's growing middle class.



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### Total easy care knitwear into northern hemisphere

Two major retailers in the United States began selling a new easy care women's woollen knitwear range, and it is anticipated another five US retailers will be doing the same by the 2006/07 US autumn/winter. AWI also targeted Japan, working directly with retailers such as Ito Yokado – the second largest of Japan's superstore chains with annual apparel turnover of more than US\$1.5 billion – as well as the knitter Mabuchi Sen'I and spinner Toa Boshuoku Co, to get easy-care knitwear into stores for their 2006/07 autumn/winter, and targeting the very lucrative school uniform market.

### Showcasing Australian Merino online

AWI's merinoinnovation.com website was launched to help the global apparel industry use Australian Merino wool and AWI innovations. The website was designed to educate the industry about the attributes of Australian Merino wool and to show how it could be used to develop new and exciting products. The response to the website from retailers and manufacturers has been positive. The site features AWI's innovations and projects, technical and scientific information about Australian Merino wool, the latest fashion news and a trade directory. There are also testimonials from designers and manufacturers who AWI is working with to introduce Australian Merino wool into their range.

- ① Australian Merino garments are available from Purely Merino stores at international airports.
- ② An AWI-supported Wool 2006 fashion show in New Delhi, India.

## CASE STUDY



### Washable wool-blend suits launched

China's fashion-smart young professionals will be enticed into wearing more Australian Merino wool through the adoption by one of China's largest clothing manufacturers – the Heilan Group – of new Australian machine-washable technology for wool-blend suits.

The technology behind the suits was funded by AWI and taken to China in 2005 as part of AWI's business-to-business strategy aimed at building demand for Australian Merino wool. Chinese movie star Yin Xiaotian launched the suit at Heilan Home stores in December 2005.

Heilan has now started selling a 50:50 wool:polyester machine-washable suit with a sales target of 100,000 per year after two years.

For Heilan Home president Chen Furong, the AWI technology transfer enables the group to "open up a new page in garment-making history".

Mr Furong said the suits are a significant step for the retail market and collaboration with AWI provided Heilan with a technological edge. "By selecting special accessories, and improving the fabric and processing techniques, the problem of suit deformation and wrinkle after washing has been solved."

AWI has provided market support for the Heilan suits, including point of sale material such as swing tags and in-store posters.

Heilan has decided to also produce a lighter-weight wool blend range of suits for the spring season.

"Through technical co-operation with AWI, the dream of easily washing suits in a washing machine has now become a reality."

Mr Chen Furong, President of Heilan Home

**Top:** The launch of the Heilan Group's machine-washable wool-blend suits in China.



**Chinese woven fair a hit for AWI**

AWI made its and Australian Merino wool's presence felt in the international textile world by exhibiting for the first time at China's largest woven trade fair 'Intertextile' in October 2005. This follows the company's first exhibition at China's largest spinning trade fair 'Spin Expo' in September 2005 (see Case Study on page 19). The Intertextile trade fair, with 1,530 exhibitors from 25 countries, gave AWI and Australian Merino wool incredible exposure to the world's leading textiles companies. Hundreds of delegates visited the AWI stand; as a result new contacts were made and new business generated.

**Test marketing campaign**

AWI joined forces with the International Wool Textile Organisation (IWTO) and committed to a major test marketing campaign for Merino wool, developed by Australian Wool Services (AWS). AWI will fund up to US\$3.4 million, matched by the IWTO through commitments from processors and other producer countries. This will be an important test case as to the benefits that can be captured for Australian woolgrowers from targeted international marketing. The program is targeting the large and significant United States market.

IWTO and AWI – as the two cash sponsors of the test marketing campaign – retain full management control of the project and determine the allocation of all resources for the campaign. AWS, who helped IWTO develop the concept proposal, was contracted to provide services for the test marketing campaign.

**Seminars lift profile of Australian Merino in key Asian markets**

In a bid to improve demand for Australian Merino wool in China, AWI conducted a series of education and training seminars for Chinese textile manufacturers. This followed the success of the company's first ever seminar and training workshop held in Hong Kong in October 2005 that was attended by 130 delegates from major knitting companies, US, European and Japanese buying houses and yarn suppliers.

**Liaison between overseas buyers and Australian industry**

AWI made itself available to smooth the progress of meetings between visitors from overseas textile manufacturers and the Australian Merino wool industry. For example, AWI was on hand in February 2006 to facilitate meetings between a team from the Chinese Zhejiang Xiniao Group and Australian knitters, allowing the Chinese to gain a better understanding of the Australian market. The Group consumes 10 million kilograms of Australian greasy wool a year, with top-making production at 8 million kilograms and spinning 5 million kilograms.



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### China free trade negotiations

Freeing up trade between Australia and China would result in significant benefits for the wool industries in both countries, according to a report released by AWI in 2005. AWI commissioned the report to investigate the impact of an Australia-China Free Trade Agreement (FTA) on the industries. The report by ITS Global found both countries would benefit because the industries were complementary and there was little competition between the wool types produced. The report found that freeing up trade to China could increase Australia's wool exports by 20 per cent above expected increases in trade without an FTA, lifting farm income by up to seven per cent and employment in the wool industry by as much as 13 per cent.

FTA negotiations between Australia and China have not formally begun, but AWI worked closely with the Australian Government to ensure the industries in both countries understand the benefits of an FTA. The report's findings were released at the official launch of AWI's China Free Trade Committee that was formed to elevate the importance of wool in the negotiations. The independent committee represents all interests across the Australian wool industry and is headed by AWI Deputy Chair Brian van Rooyen. The Committee met regularly with China's key government and wool industry representatives.

### Global design students educated about Merino

Fashion and design students from Europe, China and Australia converged in Victoria and NSW in August 2005 to get a first hand experience of the Australian Merino wool industry. The students from renowned design schools in both Australia and abroad were invited on the tour to experience every aspect of the wool pipeline from woolgrowing to product commercialisation. This Global Pipeline Tour represented a great opportunity for AWI to develop long-standing relationships with the next generation of fashion designers.

### Online wool pricing tool

AWI's online wool-pricing tool Woolcheque ([www.woolcheque.com.au](http://www.woolcheque.com.au)) was given a facelift, making it even easier for woolgrowers to independently price their wool clip. The new look and feel resulted in an online resource that is intuitive, simple to use and effectively delivers auction market data based on the latest daily or historical wool prices. Download times are faster – an important consideration for those with a slow internet connection. The refreshed look is proving to be popular among woolgrowers. After its launch in May 2006, visits to the site increased by 40 per cent.

- 1 AWI-Cerruti Fashion Design Competition winner Rhee Hye-Rah (left) from Korea, with her winning design and world renowned fashion designer Nino Cerruti (right).
- 2 The washable wool suit was widely marketed in China during and following its launch there by the Heilan Group.
- 3 Total easy care knitwear is putting Australian Merino wool back onto the shelves of retailers around the world.

## CASE STUDY



### AWI fabrics and yarns debut at Spin Expo

AWI joined some of the most influential players in the global wool industry in September 2005 at one of China's largest textile trade fairs 'Spin Expo'. Spin Expo 2005 was the first time AWI had participated in a trade exhibition and was part of the company's push to build alliances with key manufacturers and retailers in China.

With more than 135 local and international exhibitors on show, Spin Expo drew more than 6,000 trade visitors over the three days in Shanghai.

This was a great chance to talk to a range of companies about getting AWI's innovations to the marketplace.

A range of new fabrics was showcased by AWI at Spin Expo, including new super soft and lightweight fabrics, together with a polyester/wool blend fabric.

The samples were there to give potential business partners an idea of what AWI could do for them. Our message was that we can work with manufacturers and retailers to help them develop new, improved yarns and fabrics.

China is Australia's largest customer for wool, but more importantly it is the world's powerhouse for apparel manufacturing.

"Spin Expo was about creating new business opportunities for AWI to build demand for Australian Merino wool."

**Top:** AWI Product Marketing General Manager Pascal Senkoff explaining Australian Merino wool innovations to the Chinese media at Spin Expo – one of China's largest textile trade fairs.