

A look at some of the most recent developments in underwear for the sports and outdoor markets.

# Intimate details

**V**ital eco-wear is a new name for the market, but its founder and chief executive, Talya Hanan, is an old hand at this. She's been in the textile market for a long time, principally at Israeli base-layer garment manufacturer Tefron.

It was she, she explains, who was responsible for introducing the seamless panty to Tefron in 1997 and the seamless bra in 1999. In 2002, she introduced Tefron to the sports market and, by 2004, she had moved up the corporate ladder to become vice-president of innovation there, having worked on collections with Nike, adidas, Patagonia and many others.

An outsource manufacturing partner for a number of big-name brands, Tefron was also instrumental in bringing the Nike Pro range of base-layer garments to market. "Their design, our fabric," is how Ms Hanan puts it. "Nike want a very light fabric with the properties of the best wicking products on the market, something similar to those products but with the added value of seamless. Seamless-plus-light was a difficult combination."

Her intimate knowledge of yarns, materials and production, and of the sports market convinced Talya Hanan that she could make a success of her own brand, for which she had specific ideas. She explains: "I wanted to do something for ordinary people, rather than for serious athletes. I had 40+, in age, in mind, for men and for women, but especially for women, women who are from different countries and have different mentalities, but who are doing this [exercise] for their health. So I want them to have some support—depending on the product: some you can wear without a bra, if you like—but I also

*Amare Stoudemire wearing the Nike Pro Combat padded base layer system for basketball.*



want them to feel good. I have decided to put all my knowledge and all my textile background into this."

She's trying to make the Vital eco-wear collection as 'eco' as possible (the clue is in the name), using organic cotton she has sourced in India, recycled polyester and bamboo fibre in her yoga lines. She also has prototype thermal base-layer products that contain merino wool (and polypropylene), and says: "Wool is very important if I want to see my products succeed in Europe. People there are used to wool."

There are various combinations of these, shorts with organic cotton on the outside and polyester on the inside, for example. But in many cases, the garments have an element of elastane to help them keep the shape their creator had in mind.

Ideas for ways in which intimate apparel items, such as bras, can keep their shape are also subject to constant renewal. The Nike Dri-Fit sports bra, for example, has no stitching and no elastic in it. Shape-retention is the result of a collaboration between the sports brand and seam-tape technology provider Bemis.

### World of wool

Talk of merino takes us, inevitably, to the Antipodes.

Shelley Parker of Designer Textiles in New Zealand (one of the principal producing countries) believes there is now no way to hold back the popularity of merino, which her company is at the forefront in promoting, in next-to-skin apparel. She says it's a noble, natural fibre, with natural thermoregulatory properties, soft, sustainable and even sexy.

"Merino is creating some real excitement in the market at the moment," she continues. "We're moving merino towards becoming something attractive to the consumer, and people genuinely are beginning to look at labels and say, 'Wow, it's merino'."

There was a time when companies promoting merino wool were loathe to talk about combining it with other fibres, but Ms Parker explains that her company is now taking a more pragmatic approach. Base-layer garments that are 50% merino (the wool goes on the inside) and 50% Lycra are proving popular.

"We call this fabric Techfit," she continues, "and although the proportion of merino is reduced, we've added compression, and Techfit garments offer good muscle support, plus, it's a combination that moves sweat away from the body. They're proving popular with a lot of rugby guys back home in New Zealand, who are wearing tops and bottoms in this material under their training kit."

Designer Textiles is also producing an option called Techlite, which has a merino component



*A model shows off Vital eco-wear base-layer garments at the company's stand at ispo Winter 2009 in Munich.*

 WTP

of only 30%, changing "the whole price dynamic", as Shelley Parker puts it, and making products accessible to runners and football teams.

### Young market

And then there's skiing. Ms Parker says there is "a huge level of excitement" around using merino in base-layer clothing for the sport.

Someone who is close to that situation, Hamish Acland, a former top-five big mountain free skier, has decided that none of the underwear designs on offer until he retired last year were right. He has launched his own company Mons Royale to bridge the gap.

He says: "We're not trying to do what every other merino brand has done. There is a gap in the market for action sports, a space for something edgier, something cooler. It's a young market, and not a conservative one."

He explains that merino has always been close to his heart, having taken, years ago, to wearing merino singlets in bars after a day's competition as a competitive skier. He says the value he places on the fibre stems from its multipurpose qualities, but expresses the view that coolness and good brand appeal have been lacking until now.

When Hamish Acland talks of coolness, he means fashionableness, of course.



*Polar explorer Eric Larsen became only the third adventurer from the US to complete the feat of skiing to both poles when he reached the South Pole on January 3. He wore base-layer garments with Cocona-enhanced PolarTec fibre for the entire 41-day expedition, and believes the textile technology built into the clothing helped him stay warm, dry and safe.*

 Eric Larsen

Italian sports garment manufacturer Outwet has gone for a different sense of coolness in its Protego Active base-layer garment for cycling. Italian synthetic fibres, polymers and chemicals company Aquafil says that it has already delivered "huge quantities" of its Dryarn polypropylene microfibre to make the garment.

The companies involved in this project claim that Protego Active can help wearers sweat less, feel less thirsty and maintain their body temperature by automatically releasing, on contact with the skin, special molecules that can help control these factors.

But, to return to New Zealand, a company set up in 2002 by father-and-daughter team, David and Emily Cooper, has shown that there is more to that country's contribution to the world of sports underwear than wool. As the name suggests, Silkbody majors on a different natural fibre.

The idea began with silk linings for sleeping bags, which David Cooper encountered while travelling through Asia. Friends who were outdoor enthusiasts (a lot of people in New Zealand are) raved about the product and he started importing them from sources in Vietnam, along, eventually, with other silk products. Before long, a dozen outdoor stores were stocking Silkbody goods.

The range now contains 45 products, with mid-layer and soft-shell garments to add to underwear. Merino does feature, in combinations such as 72% silk, 13% merino and 15% cotton, the make-up of the fabric in most of Silkbody's base-layer garments.

"The cotton is there mostly for appearance," David Cooper explains. "It's also that we want to appeal to guys as well as girls, and guys often don't want the shiny look you often get with silk. But we've also found that with 72% silk, you get almost all the properties you get with 100% silk. The wool and cotton

components don't affect it too much, although drying time will increase the more of those two fibres you use. In fact, they add a bit of bulk and a bit of warmth, because the blend decreases the wearer's rate of heat-loss."

This claim comes, not from the company itself, but from academic research carried out at the famous university in the Coopers' home city, Otago. The company says, based on the studies that Otago scientists have carried out, that silk itself shares many of the properties of merino, including the ability to absorb 30% of its dry weight in moisture without making a garment feel damp. It's naturally odour-resistant, and naturally exothermic (in other words, it lets the heat the body creates escape). It's a breathable fibre, and keeps you comfortable whether the environment warms up or cools down.

Emily Cooper studied clothing and textile design at the University of Otago, and says that, from a designer's point of view, silk is an exciting material to work with, because of its "fantastic luxurious quality" and its "amazing sheen and lustre". She adds: "Silk just has a beautiful drape and softness, and it's lovely to work with, and beautiful to wear—you can wear silk every day. That's probably one of the reasons why it has been in use for thousands of years."

Another is its strength. Duelling probably no longer exists as a sport. However, it's worth pointing out that

*A crew-neck base-layer top from Silkbody, a New Zealand company that focuses more on silk than on merino wool.*

 Silkbody



gentlemen duellers found that a silk handkerchief in their breast pockets could save their lives on being hit. The structure of the fabric is such that a handkerchief could often withstand the force of the shot. And centuries before firearms were invented, Genghis Khan insisted that his men wore silk underneath their leather armour. Silk made it much easier to pull an enemy's arrow out, leaving a clean wound that stood a greater chance of healing, also thanks to the natural antimicrobial properties of the material.

From war and mayhem to hang-gliding. Silkbody has come to regard its products as ideal for this outdoor activity. Participants often start at 20 or even 30 degrees Celsius, but within minutes they are at 3,000 metres and the temperature is zero. In David Cooper's opinion, his company's 80% silk and 20% merino wool base-layer garments are among the few that are capable of coping with such steep and sudden changes.

"A prominent hang-glider in New Zealand, Guy Williams, has been instrumental in helping us understand this," Mr Cooper explains. "For example, it's thanks to him that we've included an integrated balaclava into the garments to prevent the problem of what people at his level call 'the chilling gap', a space between upper layer and head protection where wearers can be susceptible to potentially dangerous chills. People are now using the same system for cycling and skiing. There's even a surfer we know who has taken to wearing the silk balaclava, not to protect him from ultraviolet radiation, but to stop his skin from chafing."

### Extreme demands

Eric Larsen is unusual; he's a polar explorer from the US. Yes, the country that sent people to the moon 40 years ago has, to date, only sent three people to both poles on skis. Eric Larsen is the third. He and his team completed their trek to the South Pole on January 3 this year, a task, Mr Larsen has admitted, made easier by base-layer garments, under the Marmot brand name, he was given to wear by Colorado-based fibre manufacturer Cocona Technology, Inc.

Marmot's UpCycle base-layer products—a separate long-sleeved top and long bottoms—are made from Polartec PowerDry fabric, enhanced with Cocona natural technology to make sure it dries quickly, controls odour, provides ultraviolet protection, and gives wearers a high level of comfort.

Two weeks after reaching the South Pole, Eric Larsen was safely ensconced in a Chilean hotel, and took time out to share his opinion on the garments with Cocona's chief marketing officer, Jonathan Erb. He said: "My expedition to the South Pole was a great success. Thank you so much for sending the gear. I wore the Marmot long underwear every day for the entire expedition. It took us 41 days to get to the pole. It performed flawlessly. The travel conditions are fairly difficult to manage. Temperatures are relatively warm (around -15°C). At those temperatures, it is very easy to overheat and sweat. However, Antarctica is also a windy place where a slight breeze can drop the windchill down to -35°C in a matter of minutes. Keeping warm and dry is a constant challenge. Also, to be caught hot and sweaty when the wind picks up can devolve quickly into a life-threatening situation. I felt that the Cocona gear was able to wick moisture quickly away from my body and kept me dry and, as a consequence, warm and safe." 