


# A firm focus on R&D

Burlington Labs

The ongoing transformation of the global textile-apparel supply chain places a keen importance on technology and innovation. That's not necessarily a new concept, but the companies that put it into practice are the ones that realise that continual evolution is the key to thriving in today's tumultuous global economy.

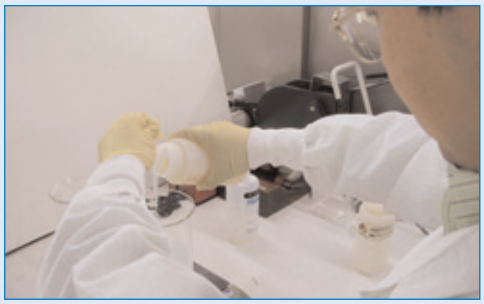
One of several current examples is Burlington Worldwide, part of the International Textile Group (ITG) conglomerate that billionaire Wilbur Ross has pieced together over the last several years. It has taken a huge step toward forging lofty heights in innovation with its Burlington Labs division. ITG was formed in 2004 to combine the assets of Burlington Industries and denim specialist Cone Mills. With its heavy devotion to R&D, Burlington has entered an area that another textile conglomerate, Milliken & Co., has long dominated.

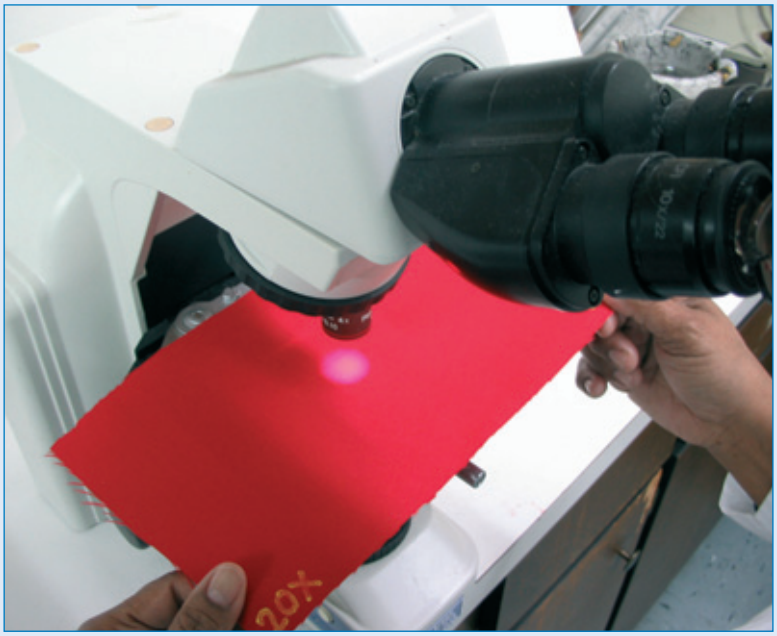
Created in early 2006, Burlington Labs seeks to grab the R&D baton once held firmly by synthetic fibre innovator DuPont and other technology-driven chemical firms. Consolidation and upheaval in the fibre business over the last several years has left something of an innovation void.

Burlington Labs currently has two developing technologies at the forefront of its efforts and these will be centre stage during the Outdoor Retailer shows in Utah, the ispo show in Germany, and other trade exhibitions during 2007. One is the Cocona technology, a result of a partnership with TrapTek, a research and development company. The partnership involved the development of a new series of woven fabrics for a variety of applications including activewear, menswear, womenswear, military, homeland security and uniforms. Cocona technology derives from coconut shells and provides evaporative cooling, odour resistance and UPF protection.

Cocona technology is permanently embedded into the fibre and does not wash out. It produces a technical fibre that provides a natural and environmentally safe solution. The Cocona process involves heating coconut husks to 1,600 degrees, producing activated carbon. The







*Burlington Labs shows a serious approach to R&D and sees itself as filling a research gap which has opened up in the textiles sector.*

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carbon particles, kept activated by a patented process, create a porous surface that traps nasty odours and harmful solar rays and causes perspiration to evaporate rapidly. A regular wash-and-dry cycle regenerates the fabric.

The other featured innovation is No Fly Zone, an Environmental Protection Agency registered anti-mosquito technology. No Fly Zone is based on an exclusive right to a proprietary nanotechnology based on a resin binding system applied directly to fabric.

Bill Dilanni, Burlington Lab's director of research and development, says No Fly Zone offers an affordable insect repellent technology with a consistent and uniform application along with "unprecedented durability".

Burlington implemented the 'Stage Gate' process to review and prioritise promising opportunities by technology and market segment. These are reviewed monthly to determine how they fit within the company's core competencies. Normally, this involves 30 to 40 ideas, which are whittled down to a top 10.

One of the many development efforts involves what Dilanni describes as a revolutionary technology with he says will raise the bar for repellency for wool products. This product, due for launch in early 2007, takes repellency to water and stains to a significantly higher level. Wool is inherently oily, therefore it's hard to achieve repellency to oil because like chemicals attract each other. This poses problems when a garment is dry cleaned. The new technology seeks to make the garment, especially fine worsted suitings and trousers, durable enough to withstand the dry cleaning process.

Burlington Labs is currently headquartered in the company's massive finishing plant in Hurt, Virginia, USA which was abruptly closed in 2006 as part of a consolidation of assets. The Hurt plant was long recognised in US textile circles as being one of the top dyeing and finishing facilities in the industry. With the plant's closing, plans are for the facility's operation to be moved to one of the company's sites in Burlington, North Carolina, during 2007.

The company has invested heavily in its lab equipment. While the lab has an impressive array of testing equipment, just as important to the effort are the people doing the testing and it seeks individuals (it currently employs some 15-20 staffers) with polymer chemistry and technical textile experience, as well as international experience (especially related to Asia), an understanding of international standards and practical or chemical manufacturing experience.

Another promising area of exploration involves colour technology. Dilanni says they have several colour-related projects in the works, but this revolutionary research is not ready for public discussion.

A great deal of R&D is spurred on by 'what ifs' proposed by potential partners. Companies often suggest combining technologies to come up with something new. Burlington has developed relationships with various technology, chemical, fibre and yarn companies.

The outdoor apparel and equipment sector, an area always in search of the latest technology, will be one of its key target application areas.

ITG is expected to maintain key technical manufacturing capabilities in the USA, where its lab work is taking place. Burlington primarily works with the four main textile fibres—cotton, wool, nylon and polyester—in its core businesses and will continue to do so.