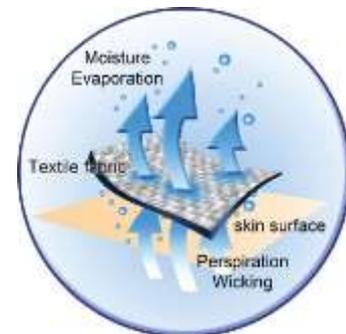


Creating and Publicizing Innovations

Over the past four decades, the Company has been committed to and promoted research and development of innovations in order to continually acquire new raw materials for production and new products for customers. The Company aims to create new quality products and play a role in the sustainable reduction of environmental threats. This was to be found in the 20th Saha Group Fair 2016, where the Company presented the **Quick Dry Wrinkle Free** innovation which provided a solution to the perennially hot and humid climate in Thailand, and the **Durable White Shirt** innovation to acquire shirts which maintain whiteness and do not become dull in short period.

Quick Dry Wrinkle Free Innovation

The continual development of “Wrinkle Free” shirts under the concept of comfortable wear aids the enhancement of one’s personality, keeps wrinkles away, free from heat, unpleasant feeling and moisture. Arrow shirt products introduced the “Quick Dry Wrinkle Free” innovation as a special quality, aiding the rapid absorption and release of moisture, e.g. perspiration or evaporating water, by spreading moisture on the fabric surface in all directions. As a consequence, the fabric dries more rapidly, reducing the problem of wicking, giving a feeling of coolness at all times.



Dur

able White Shirt

A major problem of white shirts is the dullness of fabric colour despite minimal use. The main causes of the lack of durability are the nature of use or care, affecting the whiteness of the fabric. Thus, Guy Laroche developed the “Durable White” innovation on white shirts by selecting quality threads and special formula for modifying fabric. As a result, shirts are able to maintain whiteness for a longer period when compared to other generic white fabrics, despite frequent washing. In addition, the “Durable White” innovation also has a role in reducing water pollution and reducing costs due to the elimination of any need for bleaching agent.

The Company also develops the following innovations in addition to those already described.

Sweet Cotton innovation, “naturally soft, light and comfortable”

Developed from selected 100% cotton threads of high quality that have been spun and twisted suitably into a special thread by a special thread spinning technique. The resulting cotton thread when used to weave fabric



results in a new texture boasting not only plush tenderness due to the thread, but also lighter weight than most other fabric. This enables comfortable wear and good ventilation of moisture and air. The special qualities of the fabric helps reduce the use of softening chemicals. After washing, the fabric retains its softness without the need for softener, thus preventing irritation on the skin's delicate skin.

Garments to mitigate global warming in the form of “CoolMode” clothing products.

Thanulux Pcl. participated in the campaign to develop garments to reduce global warming, i.e. “CoolMode”. This campaign to reduce global warming was initiated by the Greenhouse Gas Management Organisation (Public Organisation) in collaboration with Thailand Textile Institute with the aim of campaigning for consumer participation in the mitigation of global warming through the selection of garments sewn from materials carrying the “CoolMode” certification.



On 9th December 2016, Thanulux Pcl., in its capacity as the developer of “CoolMode” garments and registrant of goods, as well as agencies utilizing “CoolMode” garments, participated in the certificate presentation ceremony and seminar on “Global Warming Reduction Organisation... by the manufacture and use of “CoolMode” fabric”. The seminar was attended by Dr. Pongwipa Lorsomboon, Deputy Director of the Greenhouse Gas Management Organization (Public Organisation)



in collaboration with Dr. Chanchai Sirikasemlert, Director of Thailand Textile Institute, who presided over the

presentation ceremony at Centara Grand, Central Plaza Ladprao. The innovation offered an alternative for consumers, as well as promoted the development of textile materials and design of textile products which played roles in the reduction of global warming in Thailand.

The Company's product certified with the "CoolMode" standard are 100% Cotton Knitted TRI003, registration number TGO CM 2016 – 012. This garment is hygienic, manufactured by chemicals and dyes which are free from carcinogens and heavy metals. A special quality is the ability to absorb moisture and air heat effectively, giving comfort and coolness, thus reducing the need for energy consumption in air conditioners. The wearer is able to remain in a room with a temperature above 25 degrees Celsius without feeling uncomfortable, helping reduce electrical energy costs and reducing emissions of greenhouse gases from the use of air conditioners.

"THANULUX INNOVATION AWARDS (TIA)"

The Company has organized an innovation awards contest for the 10th consecutive year, from 2007 till present. The objective was to spark ideas from employees in all units to engage in research and development and create innovative works to improve operational efficiency and productivity. These developments would be beneficial to both the Company and society. Such innovations consist of outcomes in regard to products, production,



systems and processes, energy savings, global warming reduction and the environment, corporate social responsibility (CSR) and petty awards.