For Immediate Release

HKRITA Garners Admirable Accolades in the International Exhibition of Inventions of Geneva

14 April 2018, Hong Kong — The Hong Kong Research Institute of Textiles and Apparel (HKRITA) won five Gold medals and one Silver medal at the 46th International Exhibition of Inventions of Geneva. Among the 6 participating entries, the project "**AI-based Production Order Prediction Algorithm for Fashion Colour**" was also received a special prize from The National Research Council of Thailand. These achievements recognise HKRITA's concerted efforts in driving the innovation and re-industrialisation of the textiles and clothing industry in Hong Kong. Since 2010, HKRITA has participated in this global event for nine consecutive years and received 38 awards, with 18 gold medals.

Mr Edwin Keh, Chief Executive Officer of HKRITA, remarked, "We are honoured to shine yet again at the International Exhibition of Inventions of Geneva. Most of our award-winning entries are under the theme of sustainable development, where some of our more well-known research achievements thrive, contributing immensely to the textile and clothing industry in Hong Kong. In addition, fostering sustainability is also one of our key research tenets. Looking ahead, HKRITA will continue its important efforts in developing sustainable and practical technologies to enhance the competitiveness of the industry and benefit the living standards of the community at large."

Award-winning Projects

Gold Medal and Special Prize from The National Research Council of Thailand: AI-based Production Order Prediction Algorithm for Fashion Colour

This project has developed a colour productivity prediction model by integrating sales, pricing and branding to best meet operational needs such as product planning and inventory management. The model makes use of fashion colour-related posts from fashion brands, magazines, designers and key opinion leaders in Facebook and Weibo, as well as product prices, market events and brand positioning, to predict future sales of fashion items of different colours. Authentic fashion posts that relate to colour are identified via Natural Language Processing (NLP). Advanced machine-learning methods are applied to improve the accuracy of fashion colour prediction. The model can be customised for different users based on their market positions and production lead time.

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Gold Medal: Post-consumer Blended Textile Separation and Recycling by Hydrothermal Treatment

Garments are often made from a blend of different fibres in order to improve fit, style, comfort and longevity. As yet no commercially viable separation and recycling technologies are available in the industry for the most popular combinations such as cotton and polyester blends. This project has developed an efficient hydrothermal treatment method to decompose cotton into cellulose powders, hence enabling the separation of the polyester fibres from the blends. The separation process uses only heat, water and less than 5% of a green chemical with a recovery rate of over 98% for polyester fibres in 0.5-2 hours. The quality of the polyester fibres is maintained, permitting fibre-to-fibre recycling.

Gold Medal: Enclosed and Dry Industrial System to Transform Textiles Waste into Fibres

This project has developed a safe and dry closed system which incorporates a sanitisation process to mechanically recycle old clothes into fibres with minimal impact on the fibre properties. The recycled fibres retain good physical properties for the re-production of various textiles products such as yarn, fabric, and garments.

The industrial recycling process makes use of a high degree of automation through the application of robotics AGV and intelligent control of conveyors. Recycled colour-sorted fibres can be used directly for spinning without the need for dyeing and finishing. This efficient sanitisation of textile waste reduces at least 90% of the micro-organisms in the waste according to the ISO 11737-1:2018 test method.

Gold Medal: Textile Waste Recycling by Biological Methods

This project developed a novel bioprocess which makes use of textile waste for the sustainable production of different value-added products, such as glucose, synthetic fibre, bioplastics, bio-chemicals and bio-surfactants. The process consists of pre-treatment, enzymatic hydrolysis and melt-spinning. The enzymes efficiently degrade the natural fibre (i.e. cotton) in the textile waste into glucose, leaving the highly pure polyester residues for the subsequent re-spinning process. These materials are then applicable in a wide range of industries.

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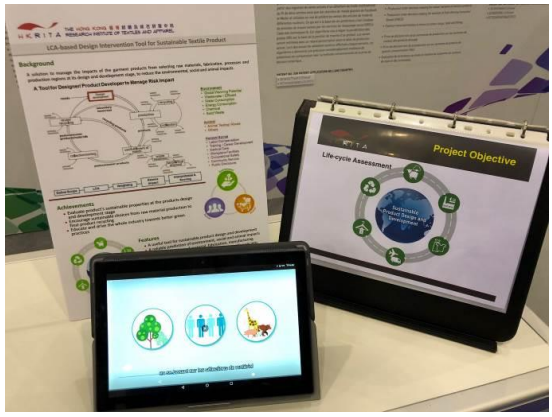
Gold Medal: Washable Hygienic Facemask as Barrier to Air Pollution

This project has developed a unique technique to embed a magnetic field in a facemask in order to provide effective filtration without reducing permeability by changing the direction of movement of nature-charged PMs and micro-organisms. The facemask also provides an effective anti-microbial function. Its ergonomic design provides improved thermal comfort and next-to-skin touch comfort for the facemask user while preventing it from loosening. Its washable structure and design are able to extend the usable lifecycle of the facemask.

Silver Medal: LCA-based Design Intervention Tool for Sustainable Textile Product



This project has developed a system to facilitate an advance in evaluating a product's sustainability properties by estimating, at the product's design and development stage, the environmental, human/social and animal impacts of its production processes based on selections of material and production region.

The system incorporates a massive amount of raw data covering different fabric manufacturing processes from agricultural production, to fabric finishing and finally to recycling. The original data came from a wide range of materials, including relevant academic publications, government and NGO reports, life cycle assessment (LCA) databases, company reports and news reports. Formulas were developed from the data extracted and assessed the secondary sources in order to unify the contributions from the different sources. An expert panel comprising senior academics, NGO experts and industry specialists was formed to determine the weightings of 15 factors and 6 manufacturing processes. Users simply input the selected material and production regions of each manufacturing process into the system, which automatically generates a sustainability report.

Running from 11 to 15 April, the 46th International Exhibition of Inventions of Geneva, which is arranged under the patronage of the World Intellectual Property Organization (WIPO), the Swiss Government and the City of Geneva, showcases innovations and inventions from around the globe. The exhibition is an important invention exhibition, attracting over 700 exhibitors from 40 countries.

About The Hong Kong Research Institute of Textiles and Apparel (HKRITA)

Established in 2006, HKRITA is funded by the Innovation and Technology Commission, HKSAR Government and hosted by The Hong Kong Polytechnic University. HKRITA engages in applied research to support the textile and apparel industry in order to boost their overall competitiveness, and to drive sustainable improvements and bring benefits for society. By providing one-stop services for applied research, technology transfer and commercialisation, HKRITA makes sustained efforts to promote successful projects for industry application.

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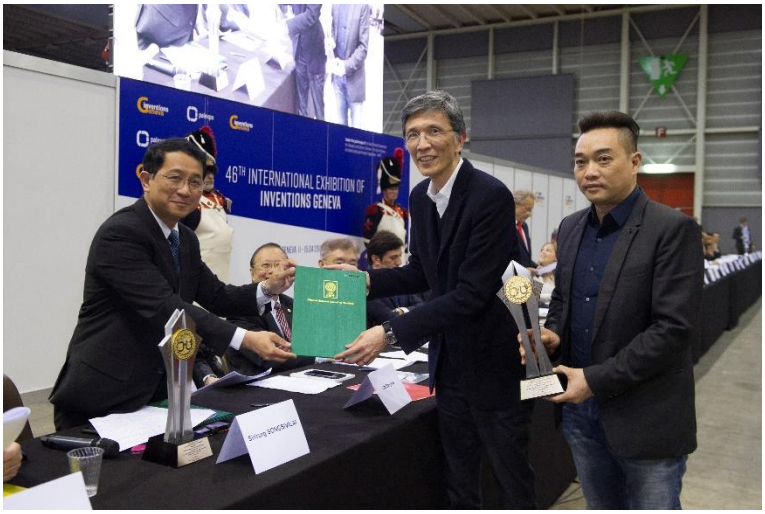
Photo Captions:

Photo 1:

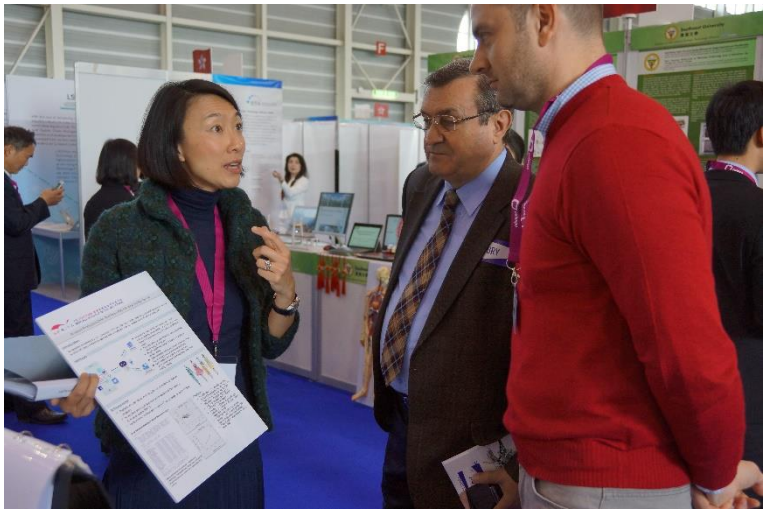


Mr Edwin Keh (the second from right), Chief Executive Officer of HKRITA, receives a special prize from National Research Council of Thailand awarded to AI-based Production Order Prediction Algorithm for Fashion Colour.

Photo 2:

Mr Edwin Keh (the third from left), Chief Executive Officer of HKRITA, together with Novetex's representatives, project sponsor, and other HKRITA representatives at the exhibition booth.

Photo 3:



Representative from HKRITA presents their winning entries to visitors, with the aim of introducing HK's R&D strength to the globe.

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