Indonesia to innovate in rayon production as it seeks Industry 4.0 competitive edge

Indonesia is seeking to diversify its fibre production, developing new ways of utilising the country's significant biomass to produce fibres such as rayon to create low-cost and quality clothing and achieve global competitiveness, the country's industry ministry says.

"The Indonesian textile and clothing sector is headed in a new direction, with rayon serving as a substitute for cotton," says Muhdori, the ministry's director of the textile, leather and footwear industry. "Dissolving pulp is the future of the textile industry, as we seek to diversify not only textile products but also into other non-woven products," he says.

In September, the government, textile and garment companies and industry associations signed an agreement to promote domestically produced rayon to reduce reliance on imported fibres and yarns.

This will build on growth of synthetic fibre production which has now jumped to 3.31 million tonnes per year, up from a mere 320,000 tonnes per year (before 2010), in part because of investment from PT Asia Pacific Rayon (APR) and PT Rayon Utama Makmur last year, Muhdori says. One key aspect of this investment is to ensure that the biomass being used is from a sustainable source, so that clothes produced from it can be marketed as environmentally friendly.

A new source of upstream fibre is important given that Indonesia's textile and garment production grew 20.7% in the second quarter of this year due to a strong performance from the clothing sector. This accounted for the biggest growth in the manufacturing sector, according to the industry ministry – so demand for local new fibre is high and growing. The value of exports of combined textiles and finished garments was US$13.27bn last year (2018) and is expected to hit US$15bn this year (2019).

The push for innovation in fibre is being matched by an industry ministry roadmap encouraging the country's textile industry to utilise Industry 4.0 technologies, using artificial intelligence (AI), digitisation and automation within production systems.

Iswar Deni, the corporate secretary of Pan Brothers, the country's largest listed garment manufacturer, supplying global brands such as Uniqlo, Adidas and The North Face, says the company had adopted elements of Industry 4.0 in its production system, including digitisation, robotisation and real-time online monitoring of the entire production process. "We are also working together with equipment manufacturers and information technology consultants to create machinery that suits our needs," he says.

Pan Brothers says it can produce 116 million garments a year. Such investment can benefit companies' bottom line immediately says the company secretary, who notes that the Indonesian government is supporting innovation across the textile and clothing industry through a regulation released in June (2019) offering a 300% tax allowance for businesses that conduct research and development activities. He also urged the government to maintain a policy that allows a refund of 10% for purchases of new machinery by companies.

Ade Sudrajat, chairman of the Indonesian Textile Association (API – Asosiasi Pertekstilan Indonesia), says there was much technological investment needed in Indonesia, going as far to say that 80% of machinery owned by textile companies in the country are based on technology that is 30 years old.

"To revitalise the machinery, the government and the private sector must work together," he says, calling for government help to protect companies with direct assistance while they upgrade: "Of course, while the revitalisation is ongoing, the market must be protected."

Sudrajat says the government was considering introducing an equipment restructuring programme for 2020 but would not provide details.

Redma Wirawasta, secretary general of the Indonesian Association of Synthetic Fibre Producers (APSYFI), says high energy costs has contributed to sluggish investment: "For the government to push the textile industry to innovate, it must improve competitiveness in terms of electricity and gas prices," he explains.

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