

Japan's apparel industry in hi-tech bid to secure future

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A model walks the runway in a Motohiro Tanji design at his 2016 autumn/winter show during Tokyo Fashion Week

From ready-to-wear knits manufactured instantly to customised dresses produced on inkjet printers, Japan's apparel industry is turning to state-of-the-art technology in a bold bid to cut labour costs and secure its future.

At manufacturing giant Shima Seiki's factory in western Japan, garments materialise in minutes, thanks to digitally-programmed automated machines that can turn out a sample seam-free pullover in half an hour with a push of a button.

The WholeGarment system patented by the Japanese manufacturer and sold to knitwear companies like Italian luxury brand Max Mara includes a digital design system that allows users to choose patterns, colours and cuts.

Originally known for glove-making machinery, Shima Seiki took a technological leap in the 1990s in an effort to revive the flagging fortunes of Japanese apparel manufacturers.

"Everyone was going overseas to cheaper destinations for manufacturing and we wanted to stop that from happening," said Kenji Iwamoto of Shima Seiki.

The WholeGarment system allows one worker to operate 10 machines—thereby lowering labour costs—and uses limited raw material to create seam-free garments that generate no waste, since they require no cutting or sewing.

After a slow start that saw around a dozen brands from Japan and Italy sign up the first year, today some 800 companies—nearly half of them Japanese—have jumped on board, contributing to Shima Seiki's 60 percent share of the global market for knitting machines.



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The initiative is part of a push by Japan's knitwear industry to capitalise on its technical know-how to create garments that cannot be replicated elsewhere at a lower cost.

For young knitwear designers like Motohiro Tanji and Ken Oe, manufacturing outside of Japan isn't an option.

"It's easier for me to work with Japanese manufacturers," Tanji told AFP after his show at Tokyo Fashion Week.

"My designs are complicated and demand a high level of technical skill which I can find here," said Tanji, who relies on Japanese factories to produce his sculptural, sophisticated knits.

Designer Oe's label Coohem emerged out of a push to save his grandfather's textile company, Yonetomi, which had been in the throes of a decline since the 1990s recession.



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Oe joined the company six years ago and introduced an emphasis on

using digital tools to create intricate high-fashion tweed suits that are now stocked at leading stores, including New York-based Jeffrey and Harvey Nichols in Hong Kong.

"We use about five yarns at a time to design original textiles... (which) other brands cannot copy," Oe told AFP.

One of a kind

The focus on technique and technology has already paid off, with Japan's knitwear sector registering a 40 percent increase in exports over a 10-year period beginning in 2006, a rare bright spot in an otherwise dismal picture for textile and apparel exports from the country.

Recognising the need for reinvention in the apparel sector, Japanese textile company Seiren, known more for manufacturing curtains and car interiors, is now fusing fashion and digital know-how to launch a customised clothing line for the masses.



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The Viscotecs brand, available to customers at Tokyo's Takashimaya department stores since September, invites customers to try on a sample outfit in a dressing room specially fitted with a camera that downloads their image onto a hand-held device.

They can then choose from a dizzying array of options—including patterns, fabrics, colours and lengths—displayed on the tablet to create a one-of-a-kind dress.

The design data is digitally transmitted to Seiren's factory in central Japan where the garment is brought to life via pattern-cutting machines and [inkjet printers](#) before being delivered to the store in three weeks.

The process has the potential to transform the fashion industry by cutting

down on unsold inventory, which either ends up in the bargain bin or as landfill.

In addition, the use of inkjet printers slashes the amount of water and energy utilised in conventional dyeing methods by at least 80 percent, Nami Yoshida, a spokeswoman for Seiren, told AFP.

However, buying into the brand comes at a cost, with dresses priced between 65,000 to 80,000 yen (\$600 to \$700).

"It may take time but we are confident that once customers know the brand, sales will follow," said Mayumi Yamakawa, a spokeswoman for Takashimaya.

For Oe, whose label derives its name from a Japanese word, "kouhen", a reference to knitting specialists, the revival of his industry is inseparable from an investment in technique and technology alike.

"It's difficult to explain in words what makes our products special... our products explain it better," he said.

"My grandfather's company was established 64 years ago... and all their technique and our technology is reflected in the items we make."

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