



INSIDE

- E-commerce expands Sino-Japanese ties > p20-21
- Ctrip taps Japan opportunities > p21

Medical waste processing gets smarter

Disposal supervision system using big data technology helps to tackle unethical recycling

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China's medical waste processing market's revenue is estimated to reach 10.7 billion yuan (\$1.57 billion) by 2023 as 2.50 million metric tons of waste will be produced by then, a recent report said.

Released by industry information provider qianzhan.com, the report predicted that by the end of this year, China's total medical waste production will surpass 2.06 million tons, and it will cost 7.69 billion yuan to process it all.

The steady growth comes from the increase in surgeries that necessitate the use of a wider range of medical supplies in bigger quantities.

Numerous laws and regulations that have been regularly enacted to

tackle the reckless disposal of medical waste have proved inadequate. In some cases, medical waste was sold to recycling hawkers, randomly discarded, or mixed with domestic garbage.

To tackle the problem, internet-based technology was introduced in medical waste processing, offering intelligent waste collection and supervision services for the whole process.

"The new medical waste tracking system uses digital technology for automatic alerts relating to production, transportation and disposal. Every bag of medical waste will be attached with a digital label when packed and sealed, and all related data will be uploaded to the cloud platform in the first place," said Cheng Jianchun, chief technology officer of Hofonet Tech, a Shanghai-

based high-tech company that offers a medical waste tracking system.

Cheng noted that each digital label has its unique code, through which the medical waste can be traced during transportation and storage. "Any bag of medical waste that is not circulated according to processing rules will trigger a system alarm, and the management director will get an instant notification."

Yang Wenya, a medical analyst with Beijing-headquartered think tank EO Intelligence iyio.com, said: "Technology used so far was backward and insufficient. Traditional manual supervision made security vulnerable in China's medical waste processing industry.

"With the help of the big data-powered supervision system, the processing efficiency will be greatly improved, and costs will be lowered.

Medical waste is prevented from flowing into the illegal market. In addition, it fills in loopholes such as an imperfect regulatory system, loose management, and loss of information," Yang said.

The new system is now being promoted nationwide.

In the first half of 2017, Suzhou in East China's Jiangsu province launched an Internet Plus medical waste management project, using technologies such as an online monitoring system and mobile apps to track the whole process.

In February of last year, the Suzhou government issued a guideline to set up a modern healthcare supervision mechanism, which takes advantage of the Internet Plus technology to monitor the key points of medical care online.

By the end of 2017, 240 medi-

cal institutions in Gusu district in Suzhou had completed online supervision trials, and the supervision system is planned to cover the whole city by 2020.

Guiyang in Southwest China's Guizhou province launched a medical waste barcode tracking system based on big data technology. After medical waste is weighed and classified, it will be transported to a processing center, saving complicated middle-level procedures.

The future of the new supervision system, according to medical analyst Yang, is promising.

"The process needs time and monetary support," Yang said.

"In the long run, an internet-based medical waste processing system would help the whole industry to realize cost reductions and efficiency improvement."



Sorting staff sift through medical waste at a garbage disposal site in Xinyu, East China's Jiangxi province. XINHUA

Handcraft takes step forward

Smart strategy helps traditional Neiliansheng cloth shoes appeal to the younger generation

By REN XIAOJIN

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Judge a man first by his shoes — so goes an old Beijing saying. It shows how highly the people of Beijing valued their shoes in the old days.

Cai Wenke, chief shoemaker of Neiliansheng, a time-honored Chinese brand best known for its "thousand-layered" shoes made of cotton, thinks many people in Beijing still value their shoes. He seeks to fulfill their need for good shoes, having devoted more than a decade already to mastering the fine craft of shoemaking.

"I started as a salesman in Neiliansheng when I was in my early 20s, and I grew fond of the craft. Like, how do you even make the sole? I realized it takes at least 2,000 stitch-

es, sometimes 4,200, to make one," said Cai.

"I asked the manager to let me learn the craft, and I have been doing it ever since."

He said making a pair of Neiliansheng handmade cloth shoes involves more than 100 processes, from drawing, draping to stitching.

"It requires one man to work eight hours for six days to make a pair," he said proudly, emphasizing that the process has not changed for over 100 years. "We need to preserve the tradition and heritage."

The "thousand-layered" — an exaggeration of the actual 30-40 layers — handmade cotton shoes were a luxury only the rich and the powerful could afford in the past. A pair of shoes that requires at least 48 hours of human labor was obviously

beyond the grasp of the common man.

But machine-based manufacturing led to a productivity boost, making many sought-after footwear brands affordable. This factor, coupled with Neiliansheng's fixation with black-and-white cotton shoes whose basic design hardly evolved for years, meant the brand was not among the fashion icons the younger generation of consumers craved.

Cai, however, thinks Neiliansheng has a bright future, given that many traditional brands have reinvented themselves to be perceived as hipster favorites in recent years.

For instance, by co-designing with Japan's Mitsui & Co and Sweden's Happy Socks, Neiliansheng has made its products more global, to be appealing for the young while pre-

serving its core values and craftsmanship.

So, in August, the 165-year-old Neiliansheng opened a pop-up shop in Sanlitun, Beijing's key commercial zone, to present its new avatar.

"It's mostly the young people who buy our shoes now," said Cai while measuring the feet size of a 20-year-old female customer. The woman said she is set to go abroad for a while, so has been shopping for clothes and footwear. To wear a pair of Neiliansheng shoes that are unlikely to be found elsewhere seemed a brilliant idea to her.

As Cai demonstrated his shoemaking craft at the new store, passersby, suitably impressed, placed nearly 25 orders on two afternoons.

"Now we are also heading toward being more fashionable, in design

and form," he said. "We have co-designed products with intellectual property such as comics."

Cheng Xu, deputy general manager of the company, said he hoped such pop-up shops would dispel the stereotypes that people hold of traditional handcrafted brands.

To encourage time-honored brands such as Neiliansheng to reinvent themselves and withstand competition from modern, technologically superior manufacturers, a number of ministries, including the Ministry of Commerce, released a guideline last year to promote the crafts, products and technologies unique to China.

These are the carriers of the craftsman spirit of China and are of huge significance to the economy, local brands and cultural values, the guideline stated.