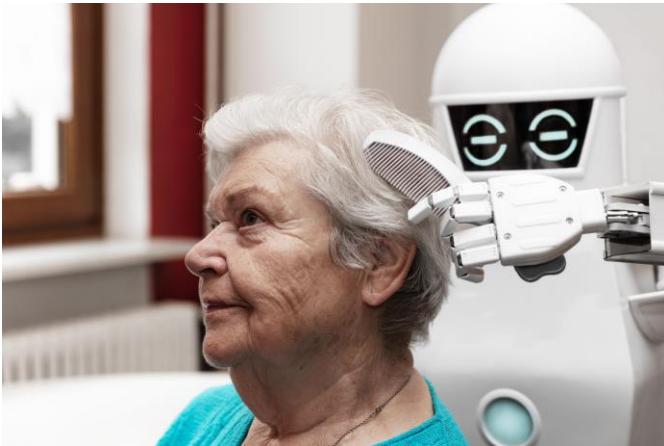


11 JAN 2020



Robot

Even if the global population is expected to skyrocket to 10 billion by 2050, many advanced countries are facing the problems of reduced manpower and aging populations. In addition to the introduction of foreign populations, Japan is developing robots to address the oversupply of the labor market for guarding, cleaning, and nursing. Japan has had a long-term labor shortage since 2018, with job vacancies 1.5 times higher than job seekers. Guarding, cleaning, and nursing's labor market is even more severe. Because the working environment is dirty and dangerous, it usually does not become a choice for job seekers. The ratio of job seekers to vacancies in the guarding market is as high as 1: 8, woodworking is 1: 5.6, nursing is 1: 4.5, and cleaning is 1: 2.3.

Japan has now developed a variety of robots, although it cannot completely replace the staff, but can effectively help staff to complete the work more quickly and accurately. It's just that each company's investment in this area still has reservations, because the market demand may change. In addition to the huge investment amount in the early stage, the robot will have the cost of resettlement and aging when it encounters the market downturn. In addition, in the past buildings, the use of robots was not considered, and the locations that can be served are limited. But we believe that if the functions of robots continue to increase, the cost will become more economical. Future buildings will also consider the use of robots.

Recycling fashion

Start from Norway restrict fuel vehicles, Netherlands, India, Israel, Britain and France have also joined the ranks of banning sales. Next, the fashion industry, which often causes waste, is about to start a recycling trend, and many clothing brands have begun to use "sustainable materials". "Sustainable materials" is becoming one of the "keys" for consumers to buy, and the sneaker brand "Allbirds" made of eucalyptus fiber has gained explosive popularity in Silicon Valley, USA. Sustainable materials is a general term for materials with low environmental impact, including non-petroleum natural materials and recycled fibers.

The world's spending power has shifted to environmentally-conscious millennials and generation Z. ZARA, a fashion brand known for its rapid response to market trends, announced that by 2025, all products must be made of sustainable materials. This shows that the brand image of sustainable materials has become an indispensable factor in the sale of clothing. Japan's largest fashion brand, UNIQLO, has also announced that it will replace its existing quick-drying materials with recycled polyester starting from spring 2020.

In 2021, large-scale production of new man-made fibers that do not use petroleum as raw materials will begin. The leader in this area is a startup company in Tsuruoka City, Yamagata, Japan: Spiber Inc. Artificial protein material is brewed protein made by microbial fermentation process, which can be decomposed by the environment, suitable for recycling, does not require petroleum, has little impact on the environment, and is the best choice for sustainable materials. In collaboration with The North Face, Spiber Inc. has developed the product to mass production and has successfully achieved the same strength as outdoor materials.



Free Moving

Have you ever imagined that one day you could be physically immobile, but freely manipulate your body in any other place through your brain, just like in the Avatar movie? Another remarkable new technology in 2020 is to make Anyone can control their "avatar" in anywhere and move. The "Newme" developed by ANA Holdings is able to transfer our avatars to our own alternative robot through the Internet, and can be controlled remotely. Then you can immediately connect to the world outside the display and move, rotate, and "neck" up and down. The other party can also feel your presence through avatars and voices! According to ANA surveys, only 6% of the world 's population travels by air, and the other 94% will be a vast market that moves through the Internet. Russian-made robot Fedor arrived



at the International Space Station in August last year. One day in the future, everyone will be able to manipulate the "substitute" to go anywhere in the world, even though the outer space of the atmosphere. And such a day is getting closer.

Photo: avatarin.com/avatar/newme/