

Sustainable manufacturing:

Exploring the zero-waste plant of Sandriver

- **Introduction**

The peace and quiet in Sandriver's factory in the Jinshan district of Shanghai will leave you impressed when you enter the factory premises. You will find that there is very little noise in the factory. The factory workers monitor the textile equipment. The certified inspectors inspected all the finished products to ensure their high quality. Both the workers and the inspectors treat the products very carefully as if they were intricate art pieces.

- **Automatic production**

The factory uses high-quality mechanical textile technology with almost 50 German Stoll high-precision textile machines installed in the building. The factory takes environmental sustainability very seriously, so the equipment is low-carbon and environmentally friendly. It is energy efficient and consumes very little power. It is also tranquil, which helps with the peace of mind of the staff working there.

The factory is highly automated. You may not see many workers around in the working area. Most of the operations are automatic, and the workers only have to keep an eye on the operating machine. One person can easily monitor up to ten devices. If there is a problem with one of the links of the production chain, the production is stopped, and the products are produced again after the fault has been fixed. This idea of identifying the defects as quickly as possible and setting them at the stage where they are found is known as the lean production concept. The founder of Sandriver, Juliet Guo, insists on following this concept and ensuring that no defective product goes on to the next step of the process without being fixed.



The fabrics produced at Sandriver are artistic and beautiful. They are made using automatic equipment, which is programmed by designers. Their beautiful and aesthetic designs are brought to life by this automated equipment. Converting the fantastic designs into a programming language that can be recognized by the machines is a daunting task that requires a great deal of research, development, and investment.

This need is realized and fulfilled by Sandriver, who has a high-tech Research and Development center with the help of which a perfectly ordered connection between the craftsmen and the automation equipment. Sandriver has always been proud of its most advanced automation equipment.

- **Strict QC**

Every process that takes place in Sandriver is highly precise, and so is the QC (Quality Control). The founder Juliet Guo insists on quality control and makes sure it is practiced at Sandriver. She is highly aware of the importance of lean manufacturing. She has lived and studied in Germany, and stresses that having no flaws in the products, means two things. Firstly, there is no waste, and secondly, this, in turn, makes the product environmentally friendly.

If there is even one problem, there is a good chance that it will affect the processes that are to follow. Even a single wrongly placed thread can lead to the whole cloth being wasted. If there is an issue in any of the processes, it needs to be fixed there promptly. The flawed product is not allowed to enter the next process in the chain. By doing this to ensure the product quality of the highest level.



The founder Juliet Guo was aware that some manufacturing brands produce substandard products. She says that so many resources are dedicated to making the product such as raw material, labor, etc. and yet the finished product turns out to be unqualified. Cashmere is very precious as it takes five lambs to produce enough for one garment. It cannot be wasted, and that is why Sandriver focuses on controlling the processes from the very beginning. Juliet Guo believes that doing this may cost a little extra, but in the end, it is definitely worth the cost.



Every worker in the Sandriver factory is involved in quality control and is a member of the QC team. If you talked to the employees, you would come to realize that they also believe that this is the best possible way. They take the responsibility that is bestowed upon them very seriously as they think it is the right way to work.

- **Yarns are carefully controlled to every meter**

The policy of Sandriver's factory is zero wastage of cashmere yarn. Any material that remains on the assembly line, the outdated inventory clothing, and any other piece of yarn will be recycled. Even one-meter long threads of yarn will not be discarded. A single meter of the thread is 1/20 times of the amount of cashmere yarn produced by a lamb annually. People at Sandriver factory believe that such high-quality raw material needs the best possible treatment. Every employee working on the production line is convinced of this and so will collect and not discard any yarn that remains on the assembly line for recycling.



The founder Juliet Guo is very proud of the fact that the factory is striving to reach the goal of zero wastage. Compared to the processes used in the Sandriver factory, traditional processes waste almost fifteen to twenty percent of fabrics or fibers.

- **The artisan's repair skills**

A purple cashmere coat, which was launched approximately 3 to 4 years ago, was being repaired with a craftsman working deftly in a corner. Sandriver provides repair services for their customers as well.



When after use, cashmere clothes have holes or start losing threads, most consumers put them away in boxes at the bottom of their cupboards. They have no choice since they can no longer use their favorite cashmere products in their current state. It is quite wasteful. However, Sandriver provides repair service to their customers so that the valuable cashmere clothing will not go to waste and will have a longer life after the repair.



Next to the worker, there stood a bag filled with the yarn that remained from the assembly line. Before repairing a piece of clothing, the worker would first think about the best method to fix it. After coming up with a method, she would go through the bag filled with yarn and find the most suitable thread. After that, she would start working with a thin crochet needle to repair the product in the best way possible.

The skilled worker repaired the small hole in the purple cashmere cardigan, and it looked almost as good as new. It was perfectly wearable once more.



The interesting fact here is that this person is not a current employee of Sandriver. She used to work there, but had to leave because of family reasons. However, she liked the atmosphere of Sandriver, and in her spare time, she would go to the factory and render her services whenever possible. In the era of machines, this crocheting skill is still precious.

- **Transformation game: from oddments to dolls**

The cashmere remains from the production line are used to repair cashmere fabrics, and are worked into gloves and hats, but they have another amazing usage as well. Artisans use these remnants to create beautiful cashmere dolls. The dolls are stuffed with the strings that are generated during the production. (the following picture shows this)



- **A warm factory**

Every employee participates and works meticulously to realize the goal of zero wastage at the Sandriver factory. Although it adheres to a rigorous system, the Sandriver factory doesn't have a rigid environment. The factory is full of life, warmth, happiness, and kindness.

Using a precision instrument, different pieces of clothes are seamed together by several sewing workers in another part of the factory. It requires a highly demanding technique of matching every single needle eye of the precision instrument to each coil of material. These precision instruments have approximately 22 needles per inch. Operating these highly sophisticated instruments requires a high level of coordination between the right and left hands of the workers. (This is shown in the following picture)



Despite this is a daunting task, they do not seem to be troubled or solemn; they work in peaceful harmony and often discuss the next step to take with their co-workers.

During their spare time, the co-workers interact with each other in a friendly atmosphere. Those who possess good cooking skills bring in food such as cakes or snacks to lunch and share them with their fellow workers. A BBQ is held every Friday at Sandriver, which creates further opportunities for the employees to communicate with each other.

