

Report : Shima Seiki Visit - December 2

SDS ONE is a special computer produced by the SHIMA SEIKI company and is compatible with the Microsoft operative system (vista, windows 7 , etc). The maneuver of the machinery would only be possible by installing the software, specifically designed by Shima for this purpose. Therefore the CPU and software are the first prerequisites that would however not function individually, meaning that the software may only work on the CPU produced by Shima and the software would be incompatible with other pc brands such as Toshiba , Acer and others.

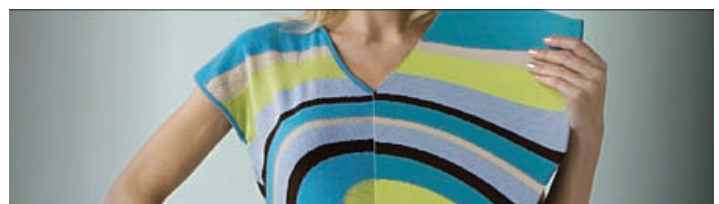


The prototyping phase of a product is the most time consuming, energy consuming and costly stage of a product. One of the objectives of SDS ONE is to reduce the preliminary prototypes, which results in eliminating waste and saving a great deal of time & money. Another asset of this new type of production is reducing the manufacturing time and therefore gaining time to be ahead of your competitors in the market, launching the product at the expected time period.



If we calculate the required time to manufacture a shirt from scratch, from the preliminary sketches of the designer to the final product , we can have an estimation of one week.

However once the program is set, the actual interval (from sending the order to the machine till receiving the final product) is only 40-90 minutes. And Therefore the main time consuming work is not the production phase of the shirt but the programming phase. Thanks to the SDS ONE machinery, the costs are reduced 70-80%. As well as the required manufacturing time



How does the prototyping phase work?

Before producing a real prototype (based on the sketches of the designer), a virtual prototype is made: A preview of the real product, where the designer and technician have the privilege to discuss the characteristics of the prototype and clarify the requirements, analyzing both the aesthetical features required by the designer and the feasibility/ technical restrictions of the machine. The software produced by Shima is so advanced and meticulously designed that it gives you the possibility to visualize the shirt in an exceptionally realistic way: including all the details/ folds according to the selected textures/fabrics/patterns. This spares the misunderstandings, saving a great amount of prototype waste. Once the virtual prototype satisfies the demands of the designer, then it is possible to proceed to the programming phase in order to produce the real prototype.

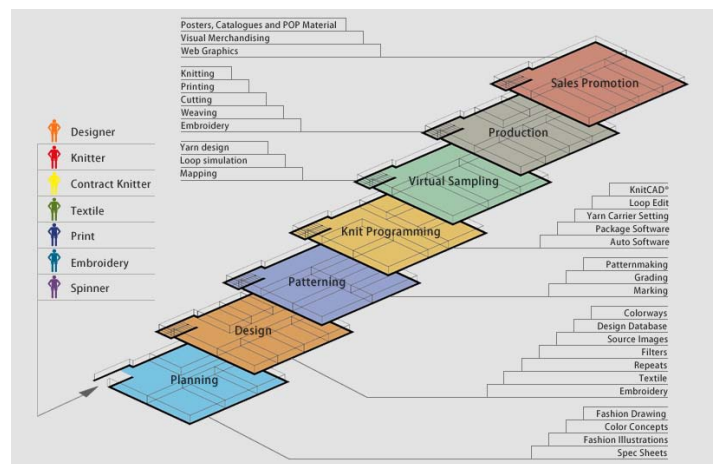


Another software that is available is one that calculates the costs and production time.

The SDS ONE machinery plays a great role within the prototyping/production phase. Nevertheless, a number of employees are needed to run it. We can distinguish 3 different positions: The model maker, the computer programmer and the technician/operator. The company offers a 5-day training session to its employees to learn the software.

The model maker is the one who transforms the 2D sketches (done by the designer on paper) to 3D prototypes on PC. Excellent field knowledge is required in order to achieve a good level (~ 15 years experience in the field)

The programmer sets a program for the machine, based on the model elaborated by the model maker
The operator / graphic technician: works on the visual execution of the model such as choosing the fabric, positioning of the pattern, proportions and other details



Report prepared by **team B**

source of some pictures : <http://www.shimaseiki.com/>