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AUTOMATION OF GARMENT PRODUCTION AND TODAY'S INDUSTRY

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The main objective of the garment industry in modern times is to provide people with quality apparel, so the clothes, produced in Ukraine, could compete not only with Chinese manufacturers, but also with European ones.

How are our producers going to solve this challenge? First of all, it is a gradual automation and comprehensive mechanization of garment production, quickening processes, the growth of productivity, a significant improvement in quality of work, and the further rise of professional skills.

The most important role in the production of garments belongs to manufacturing processes, especially mass tailoring. All technological operations must be economically viable. This goal can be achieved when we have equipment at a sufficiently high level used in manufacturing, as well as modern technologies and the organization of production.

The introduction of high-quality sewing equipment, the development and use of production lines, automated sewing processes, expanding the range of goods and their quality, constantly updated modern materials are the components of improving the garment production.

Efficiency of garment production primarily depends on the equipment used at the enterprise. For the production of high quality clothing it is necessary to introduce many new production processes using semi-automatic sewing machines, electronic-controlled machines and automatic functions. All this, in turn, requires sewing professionals, especially engineers with great knowledge.

What is the use of sewing machines with automatic functions? Firstly, it means to increase productivity of the enterprise. By automating operations such as auto programmable tack, thread trimmer, needle positioning, solenoid lifter, productivity increases by 20-30% at small companies, sewing shops, and up to 40% - at large garment factories and industries.

These machines greatly facilitate the work of seamstresses and increase the quality and quantity of products.

Concluding that, automation and complex mechanization in the production of sewing clothing companies are beneficial to each and all and do not depend on the size of production, whether it is large or very small.

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3D PRINTED SHOES: A STEP IN THE RIGHT DIRECTION

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В роботі аналізується роль взуття в нашому щоденному житті. Розглядаються перспективи використання інноваційних технологій для створення взуття, яке б ідеально відповідало формі стопи, але в той же час було зручне і стильне.

An accelerated pace of life is a characteristic feature of the society in the 21 century. This is due to the modern culture, technical progress and a variety of leisure activities. What forms a great demand for the range of shoes? Footwear takes an important part of our everyday life. It dictates mood and psycho-physiological state of the owner. For many people the choice of shoes is very problematic because of their individual anatomic features of the foot. Footwear mismatch leads not only to discomfort, but even to painful feeling and deformation of foot bones. That's why footwear faces the problem of copying a complex spatial shape of the foot, which doesn't injure the foot and provides comfort in use. Is it possible?

It's possible! Creation of unique footwear – a copy of your foot with the use of innovative 3D technologies is really possible. The process of creating a new generation of footwear is rather complex. It consists of several stages, each of which solves a difficult engineering task. At the first



stage with a special 3D scanner an exact digital copy of the foot is obtained. With the help of the software ShoeLast a block is selected. After that a footwear top model on a block is designed in the application of ShoeSole. The developed digital 3D footwear model is saved and sent to a 3D printer.

3D printer is a special device for rapid prototyping. Printing the developed digital model is built layer by layer. 3D printers work with the use of PLA or ABS plastic, SOLAY-fibers and their modifications providing necessary properties.

Sports footwear is the main segment where 3D technologies are widely used. Such brands as NIKE, Adidas, New Balance were the first to use innovative technologies in the footwear production.

By means of 3D technologies it is possible to design new models of footwear quickly and effectively, to eliminate defects in time, to completely exclude manual labour, to increase the speed and quality of goods production. High price is the only drawback of 3D technologies.

3D printer capabilities allow designers to realize the wildest ideas. At the same time footwear remains comfortable and perfectly fits shape of the foot.

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THE DISADVANTAGES OF THE WORK IN KNITWEAR PRODUCTION

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В роботі акцентується увага на рисах, необхідних трикотажникам. Досліджуються недоліки роботи в галузі трикотажного виробництва. Розглядаються професійні хвороби.

Knitwear industry is an important and perspective sector of the national economy. Nowadays it is rapidly changing. Factors that significantly influence the dynamics in the industry include availability of wider product ranges, fashionable designs, competitive pricing, and changes in consumer preferences and purchasing power. That's why it needs highly-skilled specialists, ready for independent work. If you decided to work in knitwear production you have to know some features of your future profession.

First of all you have to work with huge and complicated equipment, it can be hard. You need to have all skills of working with different kinds of machines, tools and yarns, which you will use during your work. I think if you have some skills of working with simple tools like needles and crochets it could help you. Skills of using a crochet can help you to correct little mistakes which can destroy all your work.

Also you must be a careful, attentive and patient person. You need to be careful, when you work with machines and tools. For example, if you don't keep all your hair on the top of your head, you can knit it into material. So be careful and observe safety rules if you don't want to hurt yourself and other people. And if you take care of your manicure you should be careful, when you use such simple tools as needles.

Besides the number of advantages, the work in knitwear production has some disadvantages.

You actually need all your attention and patience while you are working. You have to stay besides the machine all the time and change hooks and yarns from time to time if it is necessary. Staying on one place can be boring, so you have to love much what you do.

In addition don't forget to have some rest. For example, if you knit using needles you keep your palms and hand in one position for a long time and they are always in tension. That's why your hands start to hurt and can lose the ability to move properly.

Except it, like any other job this profession has professional diseases.

First of all it is bad hearing because of noise and vibration from machines around you. Secondly it is bad sight. You have to watch attentively at the little loops and hooks. Also because all equipment is located in cold and closed rooms you don't have enough fresh air and light. In air there is a lot of wool and dust from yarns, so people who suffer from allergy can't work there. All of these influence the respiratory system, that's why almost all knitting workers have chronic problems with this.

All professions have disadvantages, but I think if you know them it will help you on your way to become a professional.