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The role of industrial design in modern manufacturing

Abstract: This article is devoted to the importance of industrial design in production. The influence of design on the development of products and describes the main activities of the technical designer in today's world. It tells about the development of ergodesign and the formation of styling in different countries.

Keywords: composition, industrial graphics, industrial design, styling, art design technique, ergonomics.

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Industrial design studies technical, socio-cultural and aesthetic issues of forming a slender subject environment, organized by means of industrial production to ensure optimal conditions of work, life and rest of people.

Designer's work relates to the design of objects surrounding people: from machines, things, tools, complex technological equipment to complex equipment of industrial enterprises. As a result of the active creative work of designer's production of products and goods needed by people has increased many times, and the objects themselves have acquired a completely different form.

Industrial design is an artistic design, focused on mass production of products.

The meaning of design is transformation of the necessary and useful into the beautiful. A thing should look more expensive than it is worth. "Beautiful things are not for sale" - is considered in the business world. Visual component of the habitat is one of the priority objects of design creativity, because more than 80% of all information in the process of life a person gets through the visual perception.

In 1969, *ICSID*, the Congress of the International Council of Design Organizations, designated "design" as a creative activity, which aims to define the form and meaning of objects produced by

industry [1, p.13]. And this applies not only to the appearance, but also to the functional and structural features of these items, their manufacturing technology, compliance with ergonomic requirements, convenience and safety of their use.

Methods and technologies of design are based on the position of restructuring functionally necessary in aesthetically perfect.

Industrial design contains elements of marketing, art, and technology. Design has a huge impact on the technological and constructive side of the process of creating a product.

Long-term experience shows that product designing only then gives really high results when the designer, the designer and the technologist work in close creative contact, and each of them with understanding refers to a problem of another.

A true designer needs to be part of a research team, creating a safe environment, improving ergonomics, adapting existing materials and developing brand new ones.

The technical designer combines technology, design and artistic design. In his work, the designer uses all the luggage of design tools: from technical design to composite formation, from functional analysis to organizational, conceptual models of the object environment. Nevertheless, all these means are subordinated to the discovery of cultural, artistic and imaginative understanding of the designer of the whole complex of issues of the subject world and the world of communication.

In conditions of modern production, a person often works at the limit of psychophysiological possibilities, which leads to accidents and accidents.

Ergonomics studies the functional potential of a person in work processes, finds regularities of forming optimal living conditions and high labor productivity.

The requirements of ergonomics show that a deep consideration of human factors is an integral part of the entire process of artistic design of industrial products, resulting in convenient use of objects, maximum compliance with operating conditions and optimization of human life [1, p.62].

The role of human factor is the more significant the more complex technically the object of design.

Nowadays considerable attention is paid to ergo design, a discipline formed at the junction of design and ergonomics. Ergo

design connects the scientific ergonomics of the "human factor" with design studies.

In all subjects there are common stylistic regularities, common relations of material, form and technology. Thus, design is responsible for the unity of the subject world.

For successful development of design requires a certain level of development, economic conditions, high technology, developed industry, high human welfare.

There are traditionally design-oriented states - Germany, USA, Italy and Japan. Trade and production in them are uninterrupted customers of design. There are countries where design literally pierces all kinds of activities. Among them - Italy, Finland, Sweden, Norway, Japan. A significant role in the development of mass production in these countries plays a commercial design (styling) - a special type of formal and aesthetic modernization, in which the change is subject to change in the appearance of the product, not related to a change in function and does not relate to a significant improvement in its technical or performance characteristics. Styling gives a product fashionable, modern, understandable to the consumer, commercially beneficial appearance and shape. It is closely gossiped with specific characteristics of the lifestyle and fashion.

An important role in product promotion is given to corporate identity. It includes the main elements: trademark, logo, font, color, as well as the whole variety of visual information: from packaging, documentation, advertising to the elements of visual communication, vehicles, buildings and so on. An integral element in the creation of corporate identity is industrial graphics, which includes posters, printed publications, information marks, safety signs, icons, pointers, advertising - all the visual solutions, replicated by typographical or other technical means.

Industrial Graphics - a type of graphic design in the field of development and sale of industrial products (trademarks, labels, publishing marks, advertising publications, catalogs, brochures, booklets, etc.) and in the field of production management (business papers, letterheads, envelopes, etc.). Industrial graphics is closely connected with commercial and industrial advertising.

Therefore, the industrial design is considered and analyzed:

- the conformity of the product to the technical capabilities and functions;

- conformity of the product to the structure of the human body, ergonomic demands;
- profitability of production;
- the new shape and color of the product;
- ease of use, safety.

The relevance of the modern designer's work is to stimulate changes in design, shaping, manufacturing technology, because any new development must include an innovative solution.

Taking into account the needs of modern production, the created course "Industrial Design" includes the following sections: general concepts, history of design development, styles in design, stages of design, industrial graphics, functional, constructive technological basis of design solutions, ergonomics.

The wide introduction of new technologies, web-resources, materials and multimedia information products has created the need for highly qualified specialists of interdisciplinary profile with fundamental education in the field of design, materials science, mechanical engineering, processing technology, automation of manufacturing processes, as well as in the field of computer technologies to solve professional creative tasks.

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Қазіргі өндірістегі өнеркәсіптік дизайнның рөлі

Аннотация: Бұл мақала өндірістегі өнеркәсіптік дизайнның маңыздылығына арналған. Өнімнің дамуына дизайнның әсері қарастырылып, қазіргі әлемдегі техникалық дизайнер қызметінің негізгі бағыттары сипатталған. Онда эрго дизайнының дамуы және әр түрлі елдерде стильдің қалыптасуы туралы айтылады.

Кілт сөздер: композиция, өнеркәсіптік графика, өнеркәсіптік дизайн, стиль, көркемдік дизайн техникасы, эргономика.

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Роль промышленного дизайна в современном производстве

Аннотация: Данная статья посвящена значению промышленного дизайна в производстве. Рассмотрено влияние дизайна на разработку изделий и описаны основные направления деятельности технического дизайнера в современном мире. В ней рассказывается о развитии эргодизайна и становлении стиля в разных странах.

Ключевые слова: композиция, промышленная графика, промышленный дизайн, стиль, техника художественного дизайна, эргономика.

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