

## GENERAL THEORETICAL INFORMATION ABOUT AUTOCAD AND ITS AREAS OF APPLICATION

*Було розглянуто поняття автокад та основні шляхи застосування цього програмного забезпечення, як частини систем автоматизованого проектування. Визначено проблеми, які вирішує автокад.*

**Ключові слова:** САПР, AutoCad, програмне забезпечення, дизайн, моделювання.

*The concept of AutoCAD and the main ways of using this software as part of automated design systems were considered. The problems that AutoCAD solves are defined.*

**Key words:** CAD, AutoCad, software, design, modeling.

AutoCAD is an automated tool that allows different types of designers to create different types of drawings and designs. This program helps designers create their projects much faster than by hand, and offers many quick, easy and useful functions such as copy and paste.

AutoCAD can create any 2D drawing and 3D model or design that can be drawn by hand. The program also allows the user to group or overlay objects, store objects in a database for later use, and control object properties such as size, shape, and location [1].

AutoCAD can be defined as the use of computer systems to assist in the creation, modification and optimization of designs. At the same time, we can create both 2D and 3D drawings used in construction and production. It was developed by John Walker in 1982 with AUTODESK and has been successfully maintained. It is most commonly used to create and modify 2D and 3D designs for professional drafting, with detailed information on conceptual design dimensions and product layout, also available in 14 different languages depending on location. Users can customize the CAD software with the help of available add-ons according to the project requirements. Customization of the specialized tool can be performed to view and design the product while modeling the frame and surface. Widely superior in the fields of mechanical engineering, telecommunications, civil engineering, and architectural design. It is in demand by students and industrial enterprises because of its capabilities.

Reasons for implementing CAD systems:

- To increase the productivity of the designer's work.
- To improve design quality.
- To create a database for production.
- To improve communication through documentation.

Before this software, all engineers used drawings and paper to create product designs. The designer needed a lot of time to develop the product. If the manufactured product did not meet the customer's needs or the manufacturers found any errors in the product after manufacturing, they had to redesign the product, which was a time-consuming process. The designer needs to change the design of the product by removing or sometimes using a new scheme to design it. This leads to the following problems:

- Delay in production.

• Increase in the share of defective products. In order to reduce the above problems, this software is one of the solutions for IT. Software product we can save the design of product modifications; we can edit a design that has been saved before, which shortens the product development time. It also reduced human effort [2].

### References:

1. What Is AutoCAD? *Best Accredited Colleges*. URL: [https://study.com/what\\_is\\_auto\\_cad.html](https://study.com/what_is_auto_cad.html) (date of access: 23.03.2024)
2. 8 Key Uses of AutoCAD Software (Industry-Wise Examples). EDUCBA. URL: <https://www.educba.com/uses-of-autocad/> (date of access: 23.03.2024).