

СЕКЦИЯ 5. ПРИКЛАДНЫЕ ЗАДАЧИ ПРИБОРОСТРОЕНИЯ

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EXPEDIANCY OF DEVELOPMENT OF 3D PRINTING ROBOT IN CONSTRUCTION

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Introduction. 3D printing technologies are developing extremely fast and are used in various spheres of human life.

Recently, much attention has been paid to the printing of buildings, and such houses, in recent years, are increasingly appearing in various countries around the world - in the United States, Saudi Arabia, Mexico, France, UAE, and more.

In modern and unstable world, where we face new challenges every day, we have to progress and adapt as fast as we can. One from many problems to solve is lack of dwelling, it is very expensive and building time is too long, and between all of that, materials are polluting the environment. There are so many towns that are suffering from constant natural disasters, such as floods or earthquakes, as well as areas where military actions have taken place, ones need to quickly restore infrastructure, and so on.

Main Part. The essence of the development is that the mixture that forms the building will be delivered by the robot through the extruder, to its defined position and thus, layer by layer, the structure will be formed step by step [1–2]. The difference between the old methods of construction and the presented technology is that the process requires much fewer people, or even eliminates the human factor. The ability of the robot to move freely allows to build structures of any scale, limited only by the capabilities of the manipulator. The spectre of development is not limited only by buildings, any construction with a non-standard form can be real thanks to the offered technology.

Conclusion. Therefore, the use of an automated system for the construction of buildings is more appropriate than ever. Automation of construction processes makes it possible to reduce the cost and speed them up, and the development of 3D printing technologies increases the range of opportunities in this area.

References

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