

Research and experimental development dedicated for the development of innovative 3D-Automatic Reinforcement planning of precast concrete members using machine learning (ML Reinforcement)

UAB „Eisfeld Engineering“ is currently implementing the project funded by the European Union.

The aim of the project is to accelerate and automate the process of preparation of construction drawing plans, using artificial intelligence and machine learning.

The project envisages scientific research for the development and validation under laboratory conditions of an innovative 3D automatic design process for prefabricated reinforced concrete structures using machine learning methods and experimental development for the prototyping and testing of an innovative 3D automatic design process for prefabricated reinforced concrete structures using machine learning methods. The result of the project is to create a software add-on - 3D automatic design technology of prefabricated reinforced concrete structures - 3D-ARP plug-in, using machine learning methods.

The product under development will enable the automatic creation of 3D reinforcement models, including the detailing and identification of 3D formwork models, structural design calculations and reinforcement design rules using artificial intelligence and machine learning techniques. The product developed during the project will ensure the required level of system reliability. The technological solution being developed will allow to reduce the production costs of individual system components and offer a reasonable system price to many end users.

Funded under the 2014-2020 Smart FDI measure of the European Union Funds Investment Operational Program Priority 1 “Promotion of Scientific Research, Experimental Development and Innovation”.

Funded by the European Regional Development Fund.

Total value of the project – 844 594,18 Eur

Funding for the project from the European Regional Development Fund– 550 262,16 Eur.

Private investment eligible for public support for innovation or R&D projects – 294 332,02 Eur.

The project is implemented from June 8, 2020 until June 7, 2022

UAB Eisfeld Engineering is owned by Eisfeld Ingenieure AG, which offers modern civil engineering solutions. Eisfeld Ingenieure AG, headquartered in Kassel, Germany, boasts 75 years of experience in construction engineering. Using the latest BIM (information modeling of the building) software and ensuring efficient and environmentally friendly processes, the company innovates and offers future-oriented construction engineering solutions. The object of the company's activity is construction engineering services, especially design of load-bearing structures and preparation of work projects, as well as software development in this field, other related commercial economic activity.