Original Contribution

OVERVIEW OF A SOFTWARE PRODUCT "ANYLOGIC" USED IN TRAINING OF STUDENTS IN GENERAL ENGINEERING

Anton Antonov*, Krasimira Neikova**

** FACULTY OF TECHNICAL SCIENCES, KONSTANTIN PRESLAVSKY UNIVERSITY OF SHUMEN, SHUMEN 9712,115, UNIVERSITETSKA STR,
E-MAIL: antonii.a@abv.bg*

**STUDENT, IV YEAR "LOGISTIC ENGINEERING" FACULTY OF TECHNICAL SCIENCES, KONSTANTIN PRESLAVSKY UNIVERSITY OF SHUMEN, SHUMEN 9712,115, UNIVERSITETSKA STR,

ABSTRACT: *The design of a complex logistics system requires many people and resources to support the design of the various elements and stages, that can be used for specialized software products. One of the software that can be used for designing logistic systems such as warehouses, storage equipment, industrial buildings, transport schemes for road, rail, sea, air and combined transport is "AnyLogic" .*
Therefore the aim of this work is to present "AnyLogic" software product and its application in education of students in general engineering.
KEY WORDS*: AnyLogic, logistic system models, simulations.*

1. Introduction

In modern learning environment provide opportunities to include educational content and activities with a high degree of interactivity and the ability to simulate various situations, such as systems and objects with abstract nature [5].

This report gives an overview of a software (AnyLogic), which is used in the training of students specialized in "Engineering Logistic" and is associated with the development and application of simulation in logistic.

2. Exposure

"AnyLogic" is the only simulation tool that supports all approaches to create a simulation of logistic processes.

The software allows to examine any aspect of the modeling system of any level of detail of graphical interface, tools and libraries. Creating models for a

wide range of applications for modeling manufacturing, logistic, business models and processes for strategic development (Fig. 1).
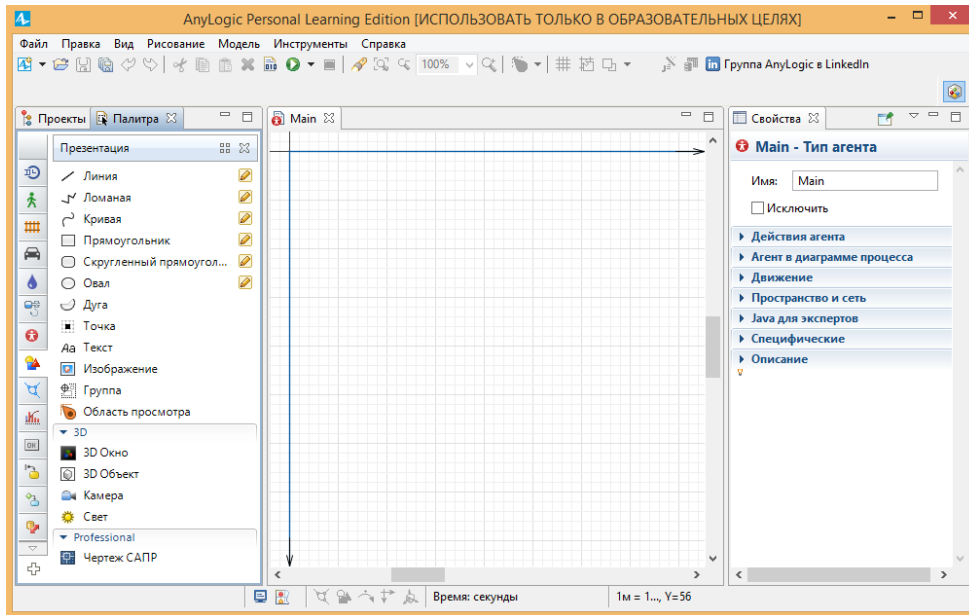

Fig. 1. Overview of AnyLogic

"AnyLogic" allows to link different simulation models created in various departments. For example, a model combining internal structure of distribution centers and external supply. Chain with information about consumer behavior thus obtain precise recommendations about the amount of inventory or production plans (Figure 2). [4] All this is possible thanks to multitask modeling, which makes "AnyLogic" unique.
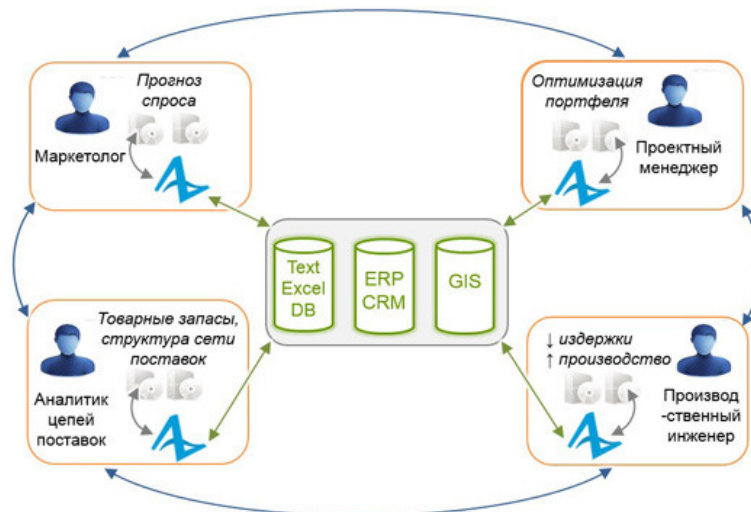

Pic.2. "AnyLogic" connect with different departments

"AnyLogic" can use different sources of GIS maps (eg, OpenStreetMap, shapefiles), to import CAD drawings and 3D-models or work with different optimization packages (eg, OptQuest) and tools for selecting the probability distribution. "AnyLogic" can easily be integrated with existing databases such as MS SQL, Oracle, text, Excel files and software for business management. [1 ... 4] Fully e compatible with CRM, ERP, BPM, BI and other software (Fig. 3) [4], which helps to make the right decisions to make optimization "on the fly" to carry out test scripts "what if" and more. AnyLogic is suitable for solving daily tasks and long-term planning

Pic.2. "AnyLogic" connected with different departments

"AnyLogic" can use different sources of GIS maps (eg, OpenStreetMap, shapefiles), to import CAD drawings and 3D-models or work with different optimization packages. (eg, OptQuest) Also use tools for selecting the probability distribution. "AnyLogic" can easily be integrated with existing databases such as MS SQL, Oracle, text, Excel files and software for business management. [1 ... 4] Fully e compatible with CRM, ERP, BPM, BI and other software (Fig. 3) [4], which helps to make the right decisions to make optimization "on the fly" to carry out test scripts "what if" and more. "AnyLogic" is suitable for solving daily tasks and long-term planning.
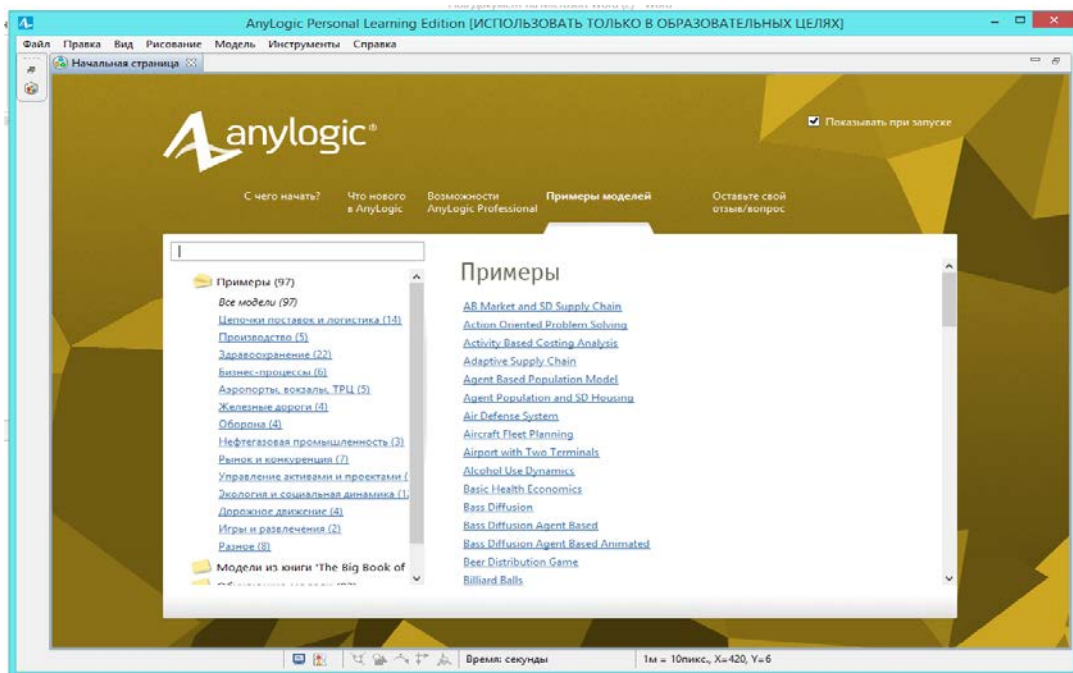
Pic. 4. library of sample 2D and 3D simulations

3.Conclusion

By studying AnyLogic students learn all aspects of modeling logistic systems at any level. Detail of graphical interface, tools and libraries to quickly create models for a wide range of applications for modeling manufacturing, logistic, business models and processes for strategic development .

REFERENCES:

[1]. Boev, V. D, Working with GIS kartami in AnyLogic 7.1, Saint - Petersburg, 2015

[2]. Boev, V. D, KOMPYYUTERNOE MODELIROVANIE, tool dlya prakticheskih occupation kursovogo and diplomnogo proektirovaniya in AnyLogic 7 Saint - Petersburg, 2014

[3]. Katalevskiy, DU, Osnovы imitatsionnogo modelirovaniya and sistemnogo analysis in upravlenii, Moscow, 2015, ISBN 978-5-7749-1072-4

[4]. http://www.anylogic.ru, Imitatsionnaya platform dlya polnogo business cycles, 2016

[5]. http://www.leo.swu.bg/file.php/1/papers/Simulations_A4.pdf, Tuparov D., D. Dureva, T. mousses, simulatsiionni interactive learning objects.