# RESEARCH MODELS REPAIR DEPARTMENT BAKER IN THE ENVIRONMENT ANYLOGIC

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To optimize material flow and characteristics of technological equipment for bakeries, it is advisable to use the methods of simulation. Because of models of simulation modeling reduces the time management decisions, to analyze the consequences of these decisions, predict the state of repair of the system and optimize its implementation. Learning repair system using a simulation model makes it possible to change the operation of the system without interference bakery real work, to understand the relationship of elements within the system, assess the impact of various factors and identify weaknesses.

**The purpose of research** - simulation of the repair department baker among AnyLogic.

With programming environment AnyLogic Professional 6.4.1 modeled process production lines bakery service repair team, namely the training of personnel to repair; receiving daily work plan and report on progress; receipt and return the instrument; verification of the equipment and its repair as necessary.

In the simulation model provides trained personnel to repair. Then, with equal certainty, workers can:

• go to management to get a routine work day and move on to review equipment. At the end of the day the worker reports to management;

• Go to a room with instruments and begin to repair any of the three types of equipment on the line;

• go directly to the survey equipment.

The work is a model tree personnel actions, for which it is concluded, and when the equipment broke down, which was not broke and includes statistical report.

To visualize the process of repair crew used AnyLogic 3D model and the model of the department repairs at the bakery using discrete-event simulation, namely process diagrams AnyLogic Process flowcharts.

Number technological equipment does not affect the complexity of the assembly model are used as active library objects attached simply copying. Internal logic can consider various regulatory conditions.

**Material and methods research.** Simulation addition to the visual image workflow also allows you to assess the performance of individual system performance. For example, the number of applications received for repairs (individually planned and unplanned) depending on the number of workers in each shift maintenance crews.

To determine the optimal number of crews in bakery, describe this model as described n-channel system with unlimited queue, which employs n brigades.

**Results.** Analyzed the results for a given probability of receipt of scheduled and unscheduled requests for repairs, the possibility of applications and queue delays in repair.

## Conclutions

A simulation model that works with the system of mass service with expectations, given the intensity of the planned receipt of applications, the delay in the repair and intensity coming unscheduled application suggests the effective amount of a team of workers on the basis of minimizing the function of total costs.

The models focused on engineering specialist referral enterprise (chief engineer, chief engineer, etc.) that in the course of experiments have the opportunity to make changes.