

EMERGENCY LOCALISATION AND REMOVAL PROCESS SIMULATION MODEL

Problem definition

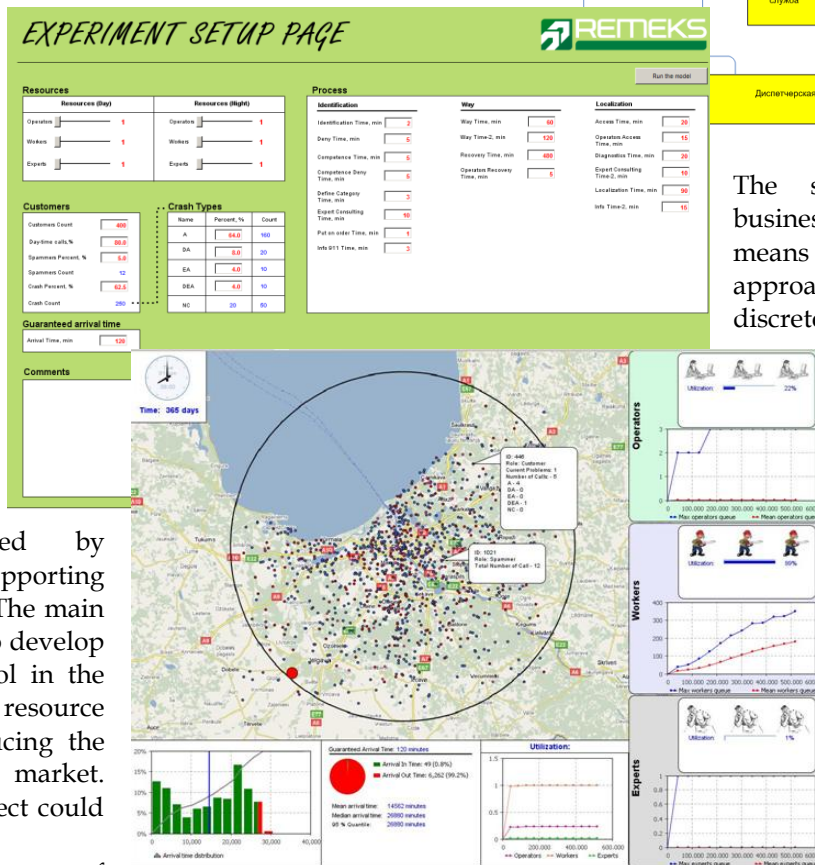
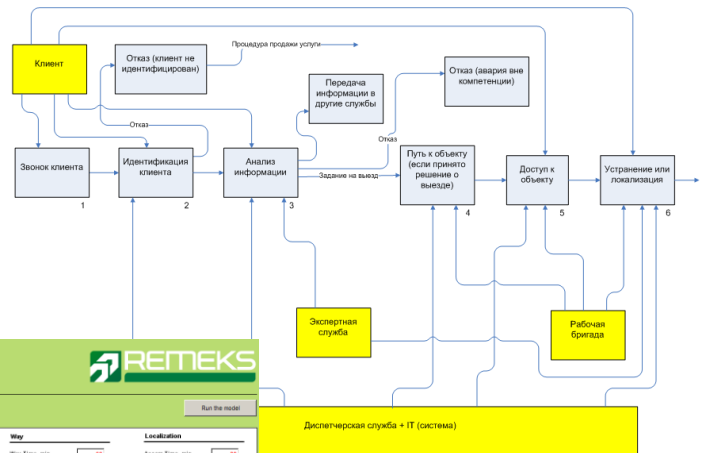
New product introduction into the market is always connected with the high level risks, which sometimes could be forecasted and taken into account during the introduction process implementation. Forecasted risks are mainly connected with the internal options of the organized business process. These risks could be decreased by the business process and the used resources optimisation. The Mentioned above new product is oriented to the emergency situations

localisation and removal in different types of engineering networks. The risks during this process are mainly connected with the obligations on the delivery of service to customers in the fixed by agreement time. Of course, these risks are connected with the resources used by enterprise during supporting this business process. The main goal of this project is to develop a decision support tool in the task of the required resource estimation for introducing the new product into the market. Some tasks of the project could be drawn as follows:

- * understanding of business process;
- * business process simulation model realization;
- * optimisation based on different scenarios;
- * analysis of different business strategies on the model and recommendations.

Proceeding

As it was mentioned above, the first task of the project is to describe business process formally and to understand all its main milestones. The formalized business process could be seen in figure.



The simulation model of the business process was developed by means of hybrid simulation approach which includes the discrete-event simulation and agent simulation.

The combination of these approaches allow us to model a business process with the high level of detalisation and to take into account a lot of factors like:

- * geographical locations of the customers;
- * day-night schedule for shifts;
- * day-night emergency intensity dependence;
- * etc.

The tool itself was realised using Java programming

language as applet, which allows to make different experiments. More than 30 parameters are available for model configuration.

Results

The developed tool could be used for making different experiments and helps to decrease possible risks by providing different numerical results, such as:

- * percentage of the service delivery in time;
- * resources loading level
- * etc.