## You solve, we assist



#### Product

A software product designed for support of inventive activity

#### Type of software

CAI (Computer Aided Innovation) RIA (Rich Internet Application)

#### Developed by

targetInvention



#### Particular goal: solving a problem

Solving Mill software product is designed for one quite definite goal: solving of non-trivial problems.

The core of the software structure is a template by filling which the user solves a problem.

All the accompanying information is structured so as to effectively support the solving process.

Though Solving Mill is highly effective, it is relatively simple. And, as a result, it is easy to learn and to deal with.

### An effective route to strong solutions

. Solving Mill is based on the effective and extremely detailed algorithm.

The algorithm was developed using the practical experience in solving inventive problems and was checked many times while performing inventive projects.

The software structure is designed to direct users towards a strong solution making them choose the most effective and fast route.

The operators used in Solving Mill are convenient and facilitate the work on a problem.

### Solving process visualization ("a solving map")

The template allows both viewing the entire problem solving procedure and focusing on individual steps.

Simple navigation of the template provides a convenient control of the solving process.

The map template is convenient for a simultaneous joint work of several solvers on a problem.

#### A set of detailed case studies

The case studies are based on the inventive projects executed by consulting solvers of inventive problems.

The problems described in the case study were solved according to the algorithm used as the basis for the software product.

The case studies are presented in such a manner as to precisely match the algorithm steps.

Nhile solving a problem, the user can employ each case study as a model.

The case studies can illustrate both the entire problem solving cycle and the work on individual steps of the algorithm.

## You solve, we assist

### What is **SolvingMill** designed for?

It is designed for the support of non-trivial technical problem solving starting from the problem situation analysis to checking the efficiency of the obtained solution.

The problems may relate to product development, production, storage, transportation and sale processes as well as to organizational management of an enterprise, advertising, etc. Non-trivial problems defy solution by traditional methods, so there is a need for a solution lying beyond the solver's experience and professional competence (so-called inventive problems).

### Who is **SolvingMill** designed for?

It is designed for manufacturing engineers, design engineers, project managers, specialists of innovation units of companies, etc. For all those who face the challenge of solving non-trivial problems. It may be used for training technical students.

### Why do they need SolvingMill?

Because not all problems can be solved by traditional methods. Some problems require break-through thinking, but not all people are capable of such thinking. Solving Mill helps them reach their full potential of a solver.

In Solving Mill, a solver is offered a step-by-step algorithm of work on a problem, tools for performing each step and sets of questions for a deeper insight into the problem situation and for problem solving. The algorithm and the tools are universal for problems from any field of industry and can be used in other fields of activity where such non-trivial problems may occur.

# What does the user derive from the work with **SolvingMill**?

Upon completion of the work, the user has:



#### in a solved problem,

a recorded process of working on a problem in the form of well-structured texts, drawings, diagrams (i.e. a finished report on a project),

a draft of a patent claim which can be compiled based on the report data. What is the theoretical and methodical foundation of SolvingMill?

Theoretical foundation is the theory of inventive problem solving (TRIZ) and related disciplines. The methodical foundation is the Algorithm of Improving Problem Situations (AIPS).



# What does **SolvingMill** use from TRIZ and system analysis?

Among the methods introduced into Solving Mill, there are: process analysis, root-cause analysis, harmful system method, multi-screen scheme, inventive principles, Su-Field modeling, system of standard solutions, technical system evolution patterns, smart little people modeling, size-timecost operator, etc.

### What is the structure of **SolvingMill** like?



SolvingMill. How to and Example Obtaining solution models

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The main part of Solving Mill is a **template**, organized in accordance with the algorithm AIPS, using which the user follows step-by-step all the stages of the work on a problem.

There are **operators** for performing complicated actions and for work with TRIZ-methods. Each operator has its own special interface.

If difficulties arise, the "how to" instructions are used.

If instructions are not enough, the user can look through the examples of performing one or another action. Examples are through **case-studies** based on solved problems.

If this is also insufficient, the user can take advantage of **the training course** dedicated to inventive problem solving and containing detailed information on the performance of each step of the algorithm.

# What advantage does the template provide?

The template is a kind of a "solving map". The user easily moves on this "map", having a chance to closely examine and hack upon one or another of its sections and to view the whole map at a time if necessary.

Thanks to this the user sees and evaluates the entire project situation: how far he has advanced in solving the problem, what intermediate results have been achieved, if any, etc.

# How does the user's graphic interface look like?



The work field of Solving Mill contains a template composed of 12 horizontally arranged sequential steps.

Each step has its individual cell. It contains information for the user, what they have to do: for example, to describe something, to enter data into some scheme, to perform actions in an operator, to draw a conclusion, etc.

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			Shipe 1	Show brief 4	
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			Internal structure properties ?		
	Where: *	When: *	Dinamicity *	Constructor of solution	
			Controllability*		
		Essence of trans	Custom attribute *	Advantages: * Disadvantages: *	
			FR: 1		
				Construct final solution	🚱 Continue to solve
	Continue to solve				
			Create preliminary solution		

### How does the user work with SolvingMill?

The user fills the template (the solving map) placing there descriptions, images, schemes, conclusions and other content generated in the course of work on a project.

Some actions are performed in the operators. The work result obtained in each operator is placed into the template and the entire auxiliary information is stored inside the operator and is accessible to the user at any time.



The filled-in template gives full and clearly visual information about all the steps of work on the problem. The template is used to form a report on the solving procedure which can be exported into HTML format.

# Will the users be able to use **SolvingMill** without in-room training?

There is a built-in training course on solving problems by using the algorithm and TRIZ methods. The training course contains explanations concerning the problem solving process as a whole and the essence of the solver's actions at each step. It is illustrated with a large number of examples so that the user can work on his problem according to the proposed model. Thus, the synergism of training and practical work are provided.

#### TRIZtrainer

