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T r a i n i n g

Training in Inventive Problem Solving

Training purpose

Training in solving technical problems on the inventive level by using TRIZ methods. We offer training courses of two levels of complexity.

• **Problem Solving Start.** Trainees study the TRIZ basics, general approaches to inventive problem solving and the minimal necessary set of methods and tools.

• **Problem Solving Professional.** Trainees acquire the skills of dealing with complicated problem situations and obtaining effective inventive solutions, study a wide spectrum of analytical and solving tools and methods.

Training subject

The Target Invention company offers training in solving nontrivial problems which occur in the course of development and operation of technical systems. The peculiarity of such problems consists in the presence of a strong contradiction which is impossible to solve by traditional engineering methods.

The methodical basis of training is **Target Invention Problem Solving technology** and **the Algorithm of Improving Problem Situations.**

The Algorithm allows building a distinct use sequence of numerous methods of problem situation analysis and effective problem solving. The Algorithm was developed as a generalization of the results of the multiyear work on problem solving by means of TRIZ, verified by performing a large number of production projects and by solving problems with students in the course of training. The Algorithm proved to be highly effective and easy to learn. It provides a systematic and organized work on a problem.
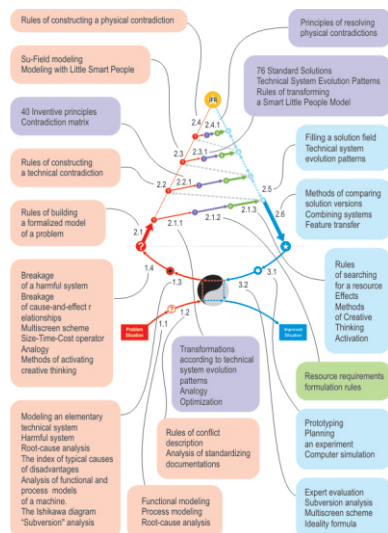
Training in practical use of technical evolution regularities

Training purpose

Obtaining the knowledge of technical evolution regularities and learning to use them in practice while perfecting technical systems, forecasting their evolution and protecting inventive solutions.

Training subject

The course includes three modules.

• **The first module** is dedicated to the study of the theoretical basics of technical evolution: the "technical system" notion, laws of technical system evolution, implementation mechanisms of these laws.

• **The second module** deals with a detailed study of the basic technical system evolution patterns and methods of combining them into evolution trees.

• **The third module** investigates the Target Invention Idea Protecting and Target Invention Forecasting technologies and trains the skills of using evolution patterns and trees.

targetInvention Idea Protecting   **targetInvention** Forecasting
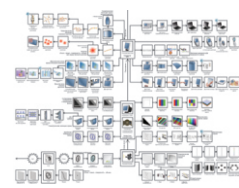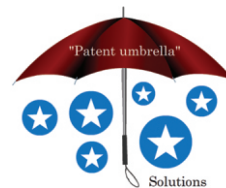
Technical system evolution patterns and trees are useful tools for designers, engineers, inventors and other specialists dealing with technology perfection. Using the evolution patterns and trees provides a purposeful and methodical development of technical systems. These tools are particularly helpful in the following situations:

• when it is necessary to circumvent a patent without cardinally changing a device;

• when it is necessary to provide a reliable patent protection of inventive solutions;

• when it is necessary to obtain a wide spectrum of solutions to a technical problem;

• when it is necessary to make a reliable forecast of technical problem evolution.

Training in Inventive Problem Solving

Studied are also individual methods of performing all necessary actions for analyzing problem situations and for dealing with a problem: functional and process analysis, root-cause analysis, multi-screen scheme, size-time-cost operator, harmful system, 40 inventive principles, su-field analysis and system of standard solutions, transformations according to evolution patterns, smart little people modeling, etc.

Trainees

• Engineers, designers and developers dealing with complicated problems from various fields of technology
• Managers who control design and production processes
• Specialists engaged in inventive and innovative activity
• Technical university students
Welcome all specialists wishing to learn to cope with complicated problems and to obtain many competitive patents!

Result

• Knowledge of the TRIZ basics
• Knowledge of effective approaches to improving problem situations
• Ability to untangle problem situations, identify key problems and find strong solutions to them, develop these solutions into technical proposals and implement them
• Skills of using special analytical and solving TRIZ methods

Training forms

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E - L e a r n i n g

The purpose of the e-learning course is introducing a student to the TRIZ basics and providing them with initial problem solving skills. The main e-learning advantages are simplicity, accessibility and flexibility. The e-learning course includes numerous examples, case studies, and training tasks. This allows a student to practice in using the algorithm and individual methods and tools.

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Our full training cycle for professional TRIZ solvers has three levels:
1. **A short introductory course.**
2. **Advanced trainings** under the guidance of experienced teachers. The peculiar feature of our trainings is dealing with real problems in the real-time mode.
3. **Master classes.** Master class participants solve problems in conditions which are maximally close to real consulting, under the guidance of an experienced TRIZ solver. The solving process is accompanied by the explanation of the fine points of the methods and approaches being used.

In case of corporate training, the three levels can be combined in different ways depending on the goal, initial preparation level of trainees and available time resources.

Training in practical use of technical evolution regularities

Trainees

• Engineers, designers, process engineers dealing with complicated problems from various fields of technology
• Managers responsible for the production development strategy
• Patent attorneys
• Engineers and designers dealing with technology perfection and generation of new ideas which need patent protection
• Technical university students

Result

• Knowledge of the technical evolution regularities
• Skills of constructing an evolution tree for a specific technical system
• Skills of forecasting the evolution of a specific technical system by using an evolution tree
• Skills of generating a wide spectrum of alternative solutions for creating a patent umbrella
• Skills of finding alternative versions of a technical solution which are uncovered by patents

Training form

The course is organized in the form of a training workshop. The course duration is 3, 5 or 8 days (they differ in the depth of the training material study and in the amount of practical work).