

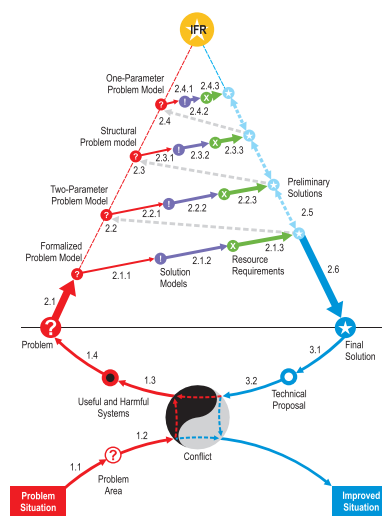
# targetInvention Consulting

## Consulting in inventive problem solving

Operating, perfecting and creating new machines and technologies are often accompanied by the occurrence of nontrivial problems. Such problems require “breakthrough” solutions, i.e., invention level solutions. Our company’s specialists are experienced in solving such problems.

### Technology

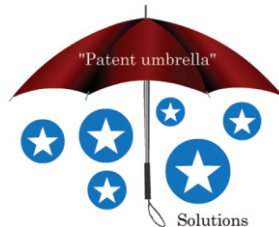
We have at our disposal a great arsenal of methods for problem situation analysis and universal methods for technical system transformation developed on the basis of TRIZ. We work according to **the algorithm of improving problem situations (AIPS)** which is part of the Target Invention Problem Solving technology.



Owing to this strong methodical support we deal with problems from various branches of industry.

## Consulting in protection of inventive solutions

Patent protection of new effective solutions is an important component of innovative activities of a company.



### Patent umbrella

When patenting a new idea, it is necessary not only to make sure that patents properly protect the gist of the proposal, but also to block all possible ways of circumventing these patents by competing companies. This is achieved by means of a “patent umbrella”.

A well-constructed patent umbrella hides an important idea among other, less significant “camouflaging” proposals and protects all the key versions of an object being patented. To build a patent umbrella, we generate a wide spectrum of alternative versions of a technical system and select suitable ones for patenting.

### Circumventing of competing patents

An idea being patented often has a very close prototype. This prototype can be partially or almost fully similar to this idea. The solver should modify their invention in such a manner that it is not covered by a competing patent. Thus, it is necessary to circumvent the patent.

## Consulting in forecasting technical system evolution

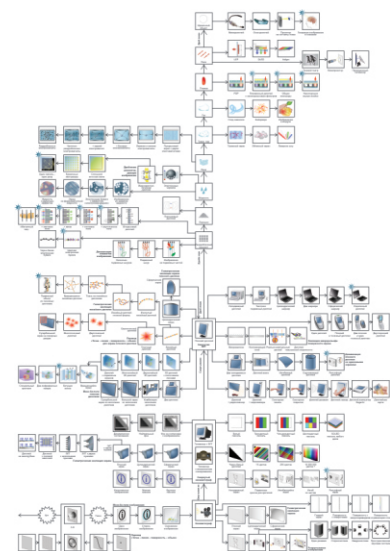
A company needs the product and technology evolution forecast for strategic planning of business. The ability to see several steps ahead allows the company to maintain its leading position among competitors.

### Subject of forecasting

Forecasting means solving an equation with many unknowns: it is necessary to take into consideration economic, social, scientific and other factors. We specialize in the production factor forecast by answering two questions:

**how a technical system** (company’s product) is going to change;

**how the process** used for the production of this technical system is expected to change.



## Types of solved problems

- Elimination of equipment damages and breakdowns in production processes
- Revealing of hidden defects and process bottlenecks
- Reduction of production expenses, process simplification and rationalization
- Increasing the equipment operation effectiveness
- Development of new versions of technical systems and processes
- Product quality improvement

## Organization of work

For the work to be maximally effective, a close cooperation with the customer company engineers is implied. As a matter of fact, a one whole team deals with a problem. Target Invention solvers provide methodically correct implementation of a project while company engineers are responsible for information support. Solving ideas are proposed and discussed jointly.

**The peculiarity of our approach to problem solving is as follows: our aim is obtaining a practical solution applicable to the specific production conditions of your company.**

The main patent circumvention methods are the legal method which implies reformulating the claims and the engineering method which consists in inventing a new version of a technical system. Our approach combines both of them. The gist of our approach is in **“changing without a change”**. We find one or more versions of a technical system which are maximally close to the one described in the patent we want to circumvent. They may be very similar in the principle of operation, structure, functioning, etc. At the same time, these versions have a significant distinctive feature which allows a patent attorney to apply for a new patent.

## Technology

To build patent umbrellas and circumvent patents, we use an effective tool based on the technical system evolution regularities – the **“Alternative Solution Generator”** which is part of the Target Invention Idea Protecting technology.

**This tool helps to identify the entire field of possible transformations of a selected technical system.**

## Technology

Companies need a reliable forecast. To provide the forecast reliability, it is necessary to take into account objective technical evolution regularities revealed by TRIZ.

To forecast, we use the Target Invention Forecasting technology, the basic part of which consists in building and analyzing **“evolution trees”**. This technology is based on the laws of technical system evolution. Evolution trees are organized sets of evolution patterns each of which allows tracing the changes of one of the technical system aspects. Combining the patterns into a tree-like structure gives a general picture of changes undergone by the system and allows its further evolution trends to be traced.

**As a result, a customer obtains a kind of “map” of possible system evolution ways. This map can be used for selecting promising trends and concentrating the developers’ efforts on these particular ways.**

### **“Target Invention” Ltd**

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