

TRIZ SUMMIT 2022



INNOVATION MANAGEMENT
AND TRIZ INSTITUTE



TRIZ SUMMIT 2022



Georgy Severinets

Project team leader
TRIZ Master



Kirill Domkin

Project Manager
TRIZ Expert

TRIZ in the life and work of Nikolay SHPAKOVSKY

ТРИЗ в жизни и творчестве Николая ШПАКОВСКОГО



INNOVATION MANAGEMENT
AND TRIZ INSTITUTE



TRIZ SUMMIT 2022

Nikolay Shpakovsky

Teaching and consulting:

- solving problems in different technical areas;
- preventing problem situations in technological processes;
- forecasting evolution of technical systems;
- circumvention of patents of competing companies.



INNOVATION MANAGEMENT
AND TRIZ INSTITUTE



TRIZ SUMMIT 2022

Nikolay Shpakovsky

36 years experience of TRIZ

2008-2021: Work as an independent TRIZ consultant, owner of the company Target Invention

2007-2014: consultant of POSCO, part time, Pohang, Korea

2005-2008: Project “Ideal farming”. Leading expert. Russia, Moscow

2004 - 2005: SAMSUNG SDI. TRIZ consultant. Korea, Suwon

2000 - 2003: SAMSUNG Advanced Institute of Technology (SAIT). TRIZ consultant. Korea, Suwon

1995 - 2000: The project «Invention Machine». Leader of the Prediction team. Belarus, Minsk

1985 - 1995: Studying TRIZ and using TRIZ in my engineering projects. Agricultural Research institute, Belarus, Minsk



INNOVATION MANAGEMENT
AND TRIZ INSTITUTE



Project "Invention Machine"

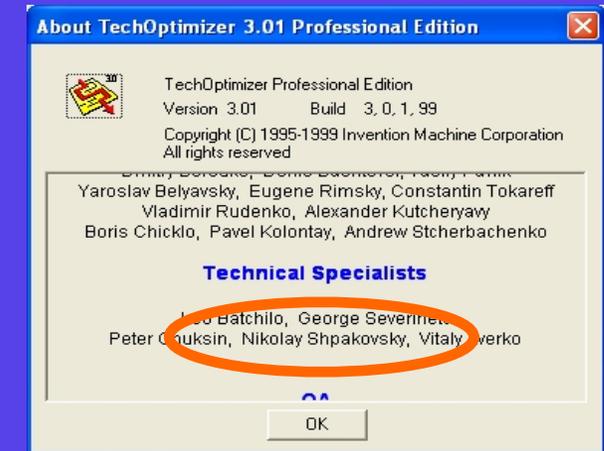
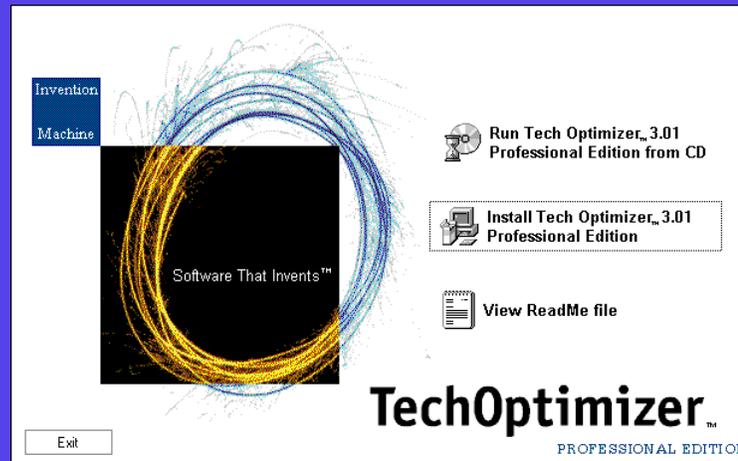
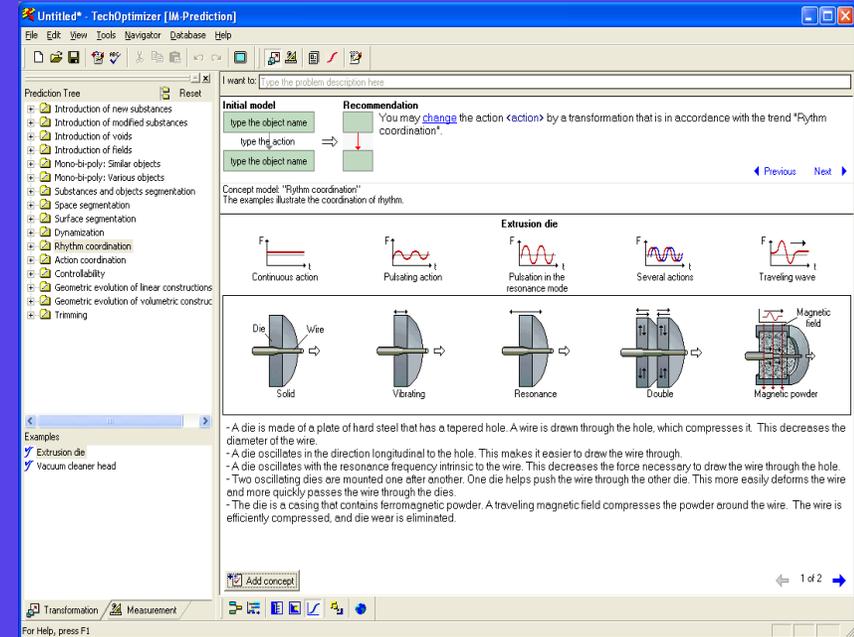
1995-2000 - leader of the "Prediction" team.

Developing some versions of the program:
"Invention Machine" and "TechOptimizer".

Results:

Developed the module
"Prediction".

This module is used till now
in the latest versions of the
program "Gold fire" (new
name of TechOptimizer).



TRIZ SUMMIT 2022

SAMSUNG

2004 - 2005: SAMSUNG SDI. TRIZ consultant.
Korea, Suwon

2000 - 2003: SAMSUNG Advanced Institute of
Technology (SAIT). TRIZ consultant. Korea,
Suwon



INNOVATION MANAGEMENT
AND TRIZ INSTITUTE



TRIZ E-learning course

SAMSUNG TRIZ trainer

How to start?

1 Check Tasks

A set of problems of different complexity and interest. Solving these training problems will help you assimilate some TRIZ methods and then try your knowledge out.

2 Solution Analysis

Learning the problem solving methods by examples. You trace step by step the process of transition from formulating the problem condition to obtaining a solution.

3 Solving Procedure

Describes the problem-solving procedure and explains the main TRIZ notions.

Your Easy Solving Way



Step by step:
General Scheme of
Problem Solution

Use additional Blocks:

Glossary

Contains short explanation of special terms used in the TRIZ-trainer text.

Reference Book

A more detailed material on some theoretical problems as well as references to more detailed information in Internet and books.

Communication

Means of communications between a student and a personal TRIZ-consultant. To use it, you should register.

All Consulting Group

Korean English

TRIZ.INFO

About TRIZ

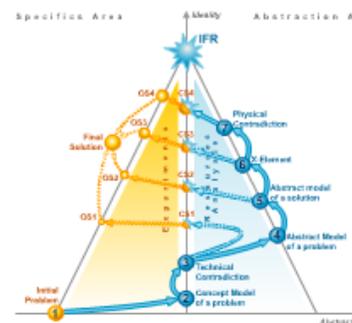
TRIZ is the Russian acronym for the Theory of Inventive Problem Solving...

TRIZ-education system

The Theory of Inventive Problem Solving is being actively developed at...

About TRIZ-trainer

TRIZ-Trainer is an online training system. The appearance of TRIZ-Trainer...



TRIZtrainer+

TRIZ-News

Test: Giraffe in refrigerator...
ETRIA TRIZ-Conference in London: Report from Nikolay Shpakovsky, TRIZ-consultant...
New solution from SAMSUNG's TRIZ-experts...

Task of week

Water tap suspended in the air. In Everland, the famous Korean recreation center, there is a strange water tap. It is suspended in the air..



To task of week

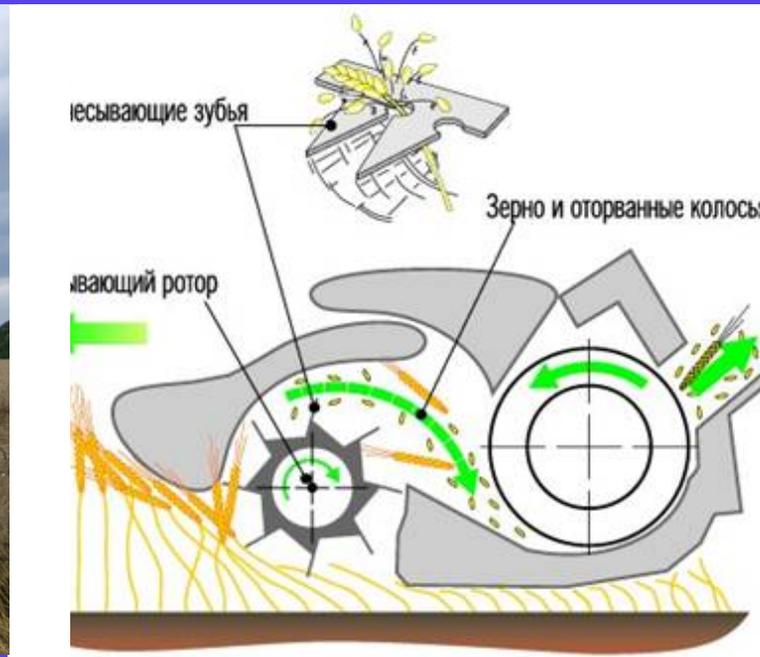
TRIZ

Conditions
Any student
competition.
yourself Sys
Consultant...

TRIZ SUMMIT 2022

Ideal farming

2005-2008: Project “Ideal farming”. Leading expert. Russia, Moscow



TRIZ SUMMIT 2022

TRIZ Master

2006 - Thesis «Evolution trees»



INNOVATION MANAGEMENT
AND TRIZ INSTITUTE



TRIZ SUMMIT 2022

POSCO

2007-2014: consultant of POSCO, part time,
Pohang, Korea



INNOVATION MANAGEMENT
AND TRIZ INSTITUTE



TRIZ SUMMIT 2022

Target Invention

2008-2021: Work as an independent TRIZ consultant, owner of the company Target Invention

target*t*Invention



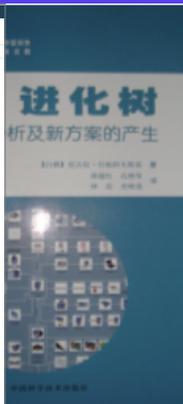
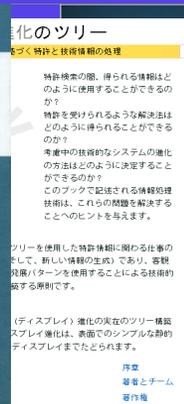
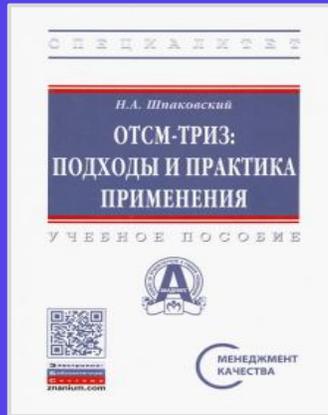
INNOVATION MANAGEMENT
AND TRIZ INSTITUTE



TRIZ SUMMIT 2022

Books

Trees of technology evolution



Russian

Japanese

Chinese

Spanish

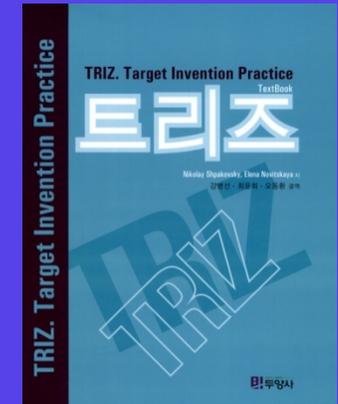
English

Ideal farming



Russian

Inventive problem solving



Russian

Korean



INNOVATION MANAGEMENT AND TRIZ INSTITUTE



TRIZ SUMMIT 2022

Web-site Generator

generator

Sections / Theory / Topics

- Analysis of Technical Information and Generation of New Ideas** December 20, 2009
A new book about technical system evolution (TRIZ) by Nikolay Shpakovsky.
- TRIZ in the World of Science – Where Does It Fit?** January 9, 2009
It is often difficult to understand its boundaries. TRIZ is, on the contrary, easy to determine, especially as regards its methodology. TRIZ has a definite purpose – the solving of inventive problems. The entire power of TRIZ is focused in the space between a problem and a solution to the problem, between a situation having some disadvantage and an improved situation.
- Algorithm of work on production inventive projects** December 14, 2008
Each key action of inventive project can be performed by various innovation methods, mini-algorithm and tools. Proposed algorithm organizes them into united structure, shows place and goal of each tool. Algorithm forms peculiar "control system" of thinking process.
- History of Gallic Reaper** January 23, 2006
When and why did the first combine in the human history appear? What is the invention history?
- Emotional Toyota** May 16, 2005
The car can slit its "eyes" – headlights – maliciously; its cowling can change color to red, becoming "livid with rage".
- Stretch jogging shoes** May 9, 2005

generator

Who invented a wheel?

Nikolay Shpakovsky

October 10, 2002

Evolution
Evolution patterns, Dynamization pattern
Wheel, Transport

The wheel is a greatest invention of the mankind. Let us try to restore the process of its invention and improvement.

We do not know and it looks as if we will never learn who invented the first wheel. But we can restore the process of its "devising" with a great degree of credibility. When ancient people were hauling a heavy object, for instance, a carcass of a mammoth or a block, something round – a stone or a smooth log – got under it by chance. And suddenly it became quite easy to haul. People noticed that and began putting such round objects on the way of load hauling. Hauling became easier. But putting such rollers was a vexatious business.

In effect, the first law of ES evolution was satisfied. In TRIZ it is called "the law of completeness of system parts". But that was not enough. Wouldn't it be great if the roller rotated under a load! Dictum-factum. The middle part of the roller was made thin and was attached to a platform through a primitive bearing. The platform served to

New
TRIZ in the World of Science – Where Does It Fit? / Algorithm of work on production inventive projects / History of Gallic Reaper / Emotional Toyota / Stretch jogging shoes / Transfer to the microlevel as one of the main display evolution trends / Transformation of structurally similar elements of technical system / "Bronze Horseman" / TRIZ-Principles for Art-Composition / Man and Technical System (part II)

Sections
Evolution / Ideas / Old and new tales / Solved problems / Tools and methods

Theory
Algorithm of problem solving / Altshuler's principles / Contradiction / Evolution tree / Ideal final result / Physical effects / Resources / ...

Topics
Automobile / Display / Medicine / Pleasant trifles / Safety / Special

generator

Evolution

- History of Gallic Reaper** January 23, 2006
When and why did the first combine in the human history appear? What is the invention history?
- Transfer to the microlevel as one of the main display evolution trends** April 5, 2005
Analyzing the display revealed a number of interesting laws which are not always obvious.
- Evolution of the shape of telephone components** March 15, 2004
We are focused on a telephone set not as a system for transmitting and receiving voice information but on a telephone set as a final element of the entire process, which is in direct contact with a user.
- One of the evolution trends of an aircraft propulsive device** June 9, 2003
Versions of the aircraft propulsive device ranged according to a certain evolution trend.
- Pillow** December 9, 2002
The history of pillow evolution from Georgy Severinets.
- Who invented a wheel?** October 10, 2002
The wheel is a greatest invention of the mankind. Let us try to restore the process of its invention and improvement.
- Evolution tree of tooth-brush** October 1, 2002
A simple and understandable object – a tooth brush – has

New
TRIZ in the World of Science – Where Does It Fit? / Algorithm of work on production inventive projects / History of Gallic Reaper / Emotional Toyota / Stretch jogging shoes / Transfer to the microlevel as one of the main display evolution trends / Transformation of structurally similar elements of technical system / "Bronze Horseman" / TRIZ-Principles for Art-Composition / Man and Technical System (part II)

Sections
Evolution / Ideas / Old and new tales / Solved problems / Tools and methods

Theory
Algorithm of problem solving / Altshuler's principles / Contradiction / Evolution tree / Ideal final result / Physical effects / Resources / ...

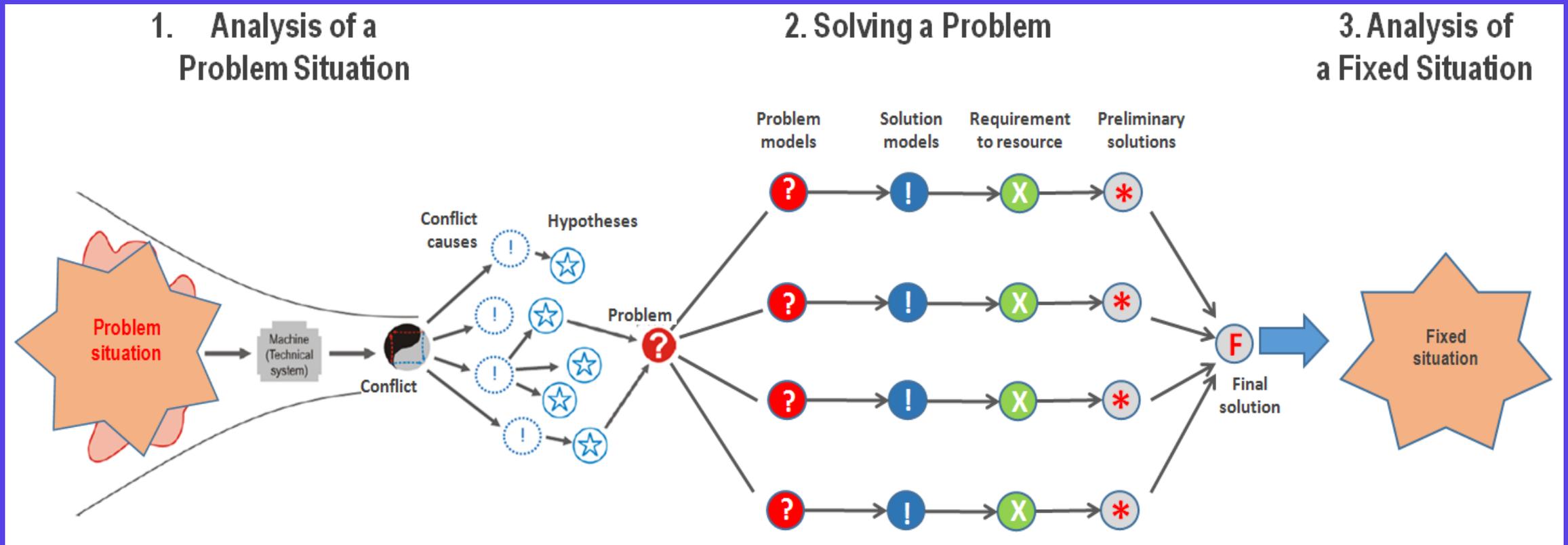
Topics
Automobile / Display / Medicine / Pleasant trifles / Safety / Special



INNOVATION MANAGEMENT AND TRIZ INSTITUTE



Algorithm of Improving Problem Situations



TRIZ SUMMIT 2022

Solving Mill software

The screenshot shows the homepage of SolvingMill.com. The header features the SolvingMill logo with the tagline "You solve. We assist." Below the logo is a large illustration of three people interacting with a complex blue tangled ball of string, symbolizing problem-solving. On the left side, there is a login section with fields for "User login or email" and "User password", a blue "Signin" button, and links for "Registration on the %APP_HOST%" and "Repair". At the bottom, there is a language selector set to "EN" and a copyright notice: "© Solving Mill, © Target Invention Ltd 2012-2021. All rights reserved".

The screenshot shows the 4solvers.ru website. The header includes the 4solvers logo and the name "Николай Шаповский". Below the header, there are navigation tabs for "My projects", "Collaborative projects", "Project examples", "Archive", and "Basket", along with a "New project" button. The main content area displays a grid of project cards, each with a thumbnail image, a title, and a date. The projects shown include: "Rescue tent" (Fr, Aug 27), "Новый проект" (Tu, May 4), "Как достать вазу со дна моря" (Sa, Sep 5, 2020), "Шлаковый двор" (Tu, Feb 16), "Обработка металлических деталей с включениями" (Sa, Sep 5, 2020), "Установка для производства пластиковых гранул" (Tu, Mar 9), "Электроды" (Th, Jun 10), "Полоса стекла" (Th, Jan 14), "Изготовление микросхем (капиллярный диск)" (Th, Apr 1), and "Ячейка струйного принтера" (We, Mar 10).



INNOVATION MANAGEMENT
AND TRIZ INSTITUTE



TRIZ-trainer software

TRIZtrainer О ТРИЗ-тренере Задачи Разборы задач Процесс решения Дополнительно ТРИЗ-матрица Справка

Поиск по ТРИЗ-тренеру

В учебном курсе

Задачи
Набор задач различной степени сложности, решение которых поможет вам усвоить методы ОТСМ-ТРИЗ.

Разборы задач
Иллюстрация процесса решения задач на примерах. Вы можете шаг за шагом проследить весь ход решения задачи от формулирования условия задачи до получения идеи решения.

Теория
Описание как решать задачи в соответствии с алгоритмом АИПС-2015.

Дополнительно
Дополнительные материалы для углубления знаний по ОТСМ-ТРИЗ.

Общение с преподавателем
Преподаватель корректирует решение задач студентами. Персональное общение с преподавателем в чате.

Результат обучения - навык исправления проблемных ситуаций

Почему именно ТРИЗ-тренер

Решение нестандартных, творческих задач позволяет найти выход из самой сложной ситуации. Это справедливо как для произв...

Как учиться с ТРИЗ-тренером

Онлайновая дистанционная система обучения ТРИЗ-тренер предназначена для первоначального обучения решению изобретательских задач. В результате...

Преподаватели

Помогать работать с ТРИЗ-тренером будут преподаватели, имеющие богатые навыки решения изобретательских задач и обучения специалистов компаний. С их поддержкой...

Сертификация

По окончании курса можно сдать экзамен и получить сертификат, подтверждающий ваши приобретённые навыки в решении изобрет...

TRIZtrainer
220053, Республика Беларусь, г. Минск, ул. Урожайная, д.9, офис 6
Режим работы: 9:00 - 19:00
☎ +375 33 353 40 40, +375 29 110 28 54
✉ info@triztrainer.ru

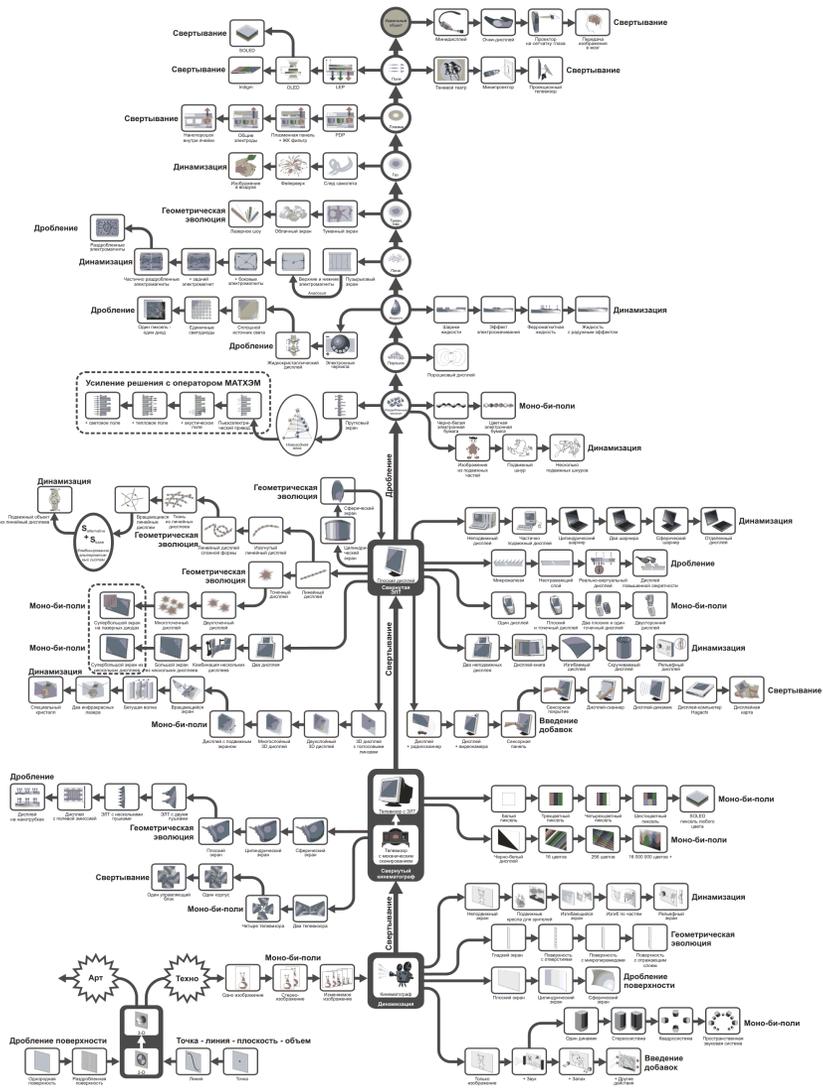
О КУРСЕ
Как учиться
О ТРИЗ-тренере

МАТЕРИАЛЫ
Разборы задач
Процесс решения
Матрица выбора приёмов

ПРАВИЛА
Правила оплаты
Оплата по частям
Публичная оферта
Регистрационные данные

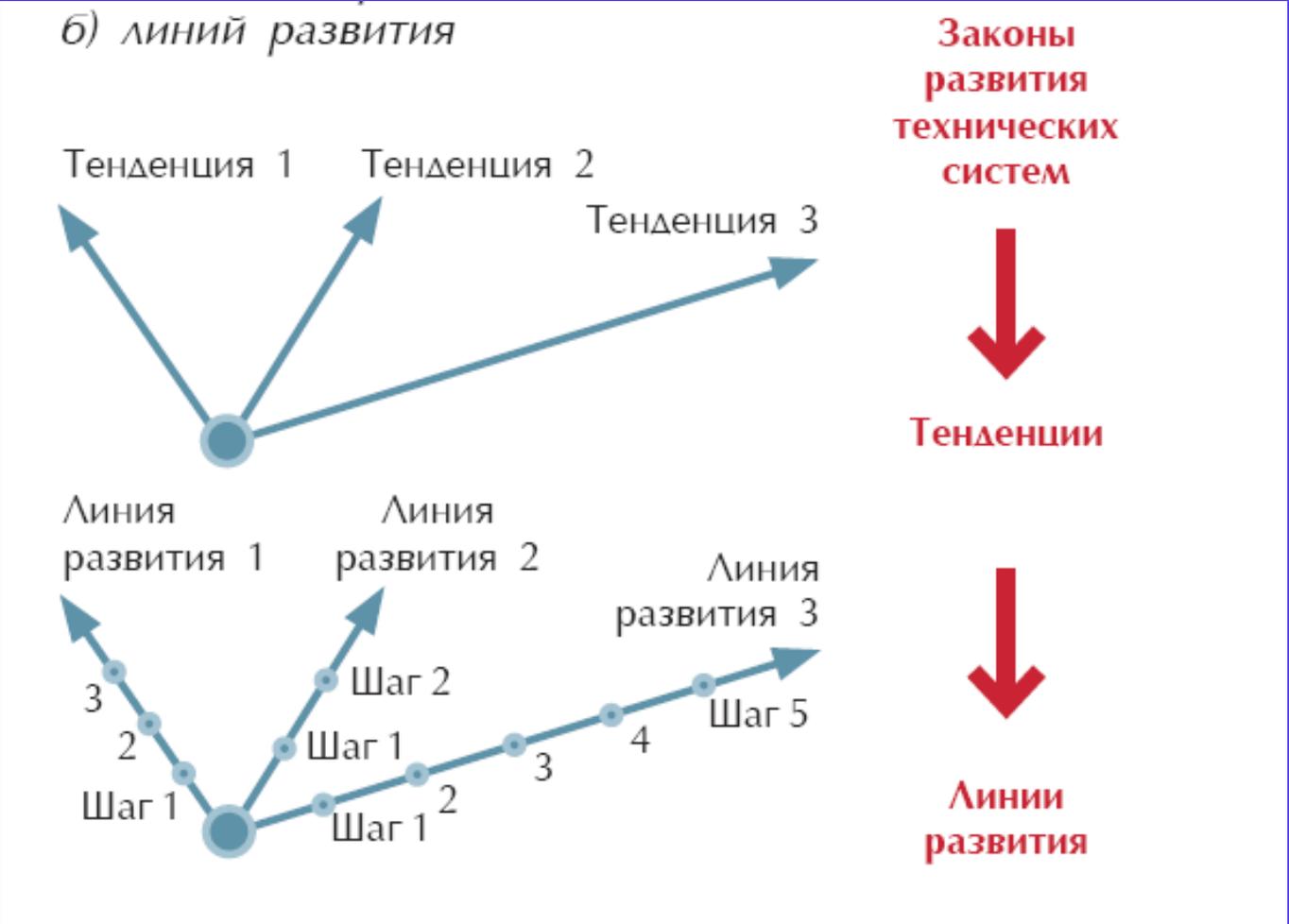
ДЕРЕВО ЭВОЛЮЦИИ ДИСПЛЕЯ

Технология обхода конкурирующих патентов и построения патентных зонтиков



Copyright: Николай Шаховский и соавторы
Д.И.С. Институт

Evolution tree



TRIZ SUMMIT
2022



Q&A

SESSION

(СЕССИЯ ВОПРОСОВ)



INNOVATION MANAGEMENT
AND TRIZ INSTITUTE

