



TRIZ
SOLUTIONS



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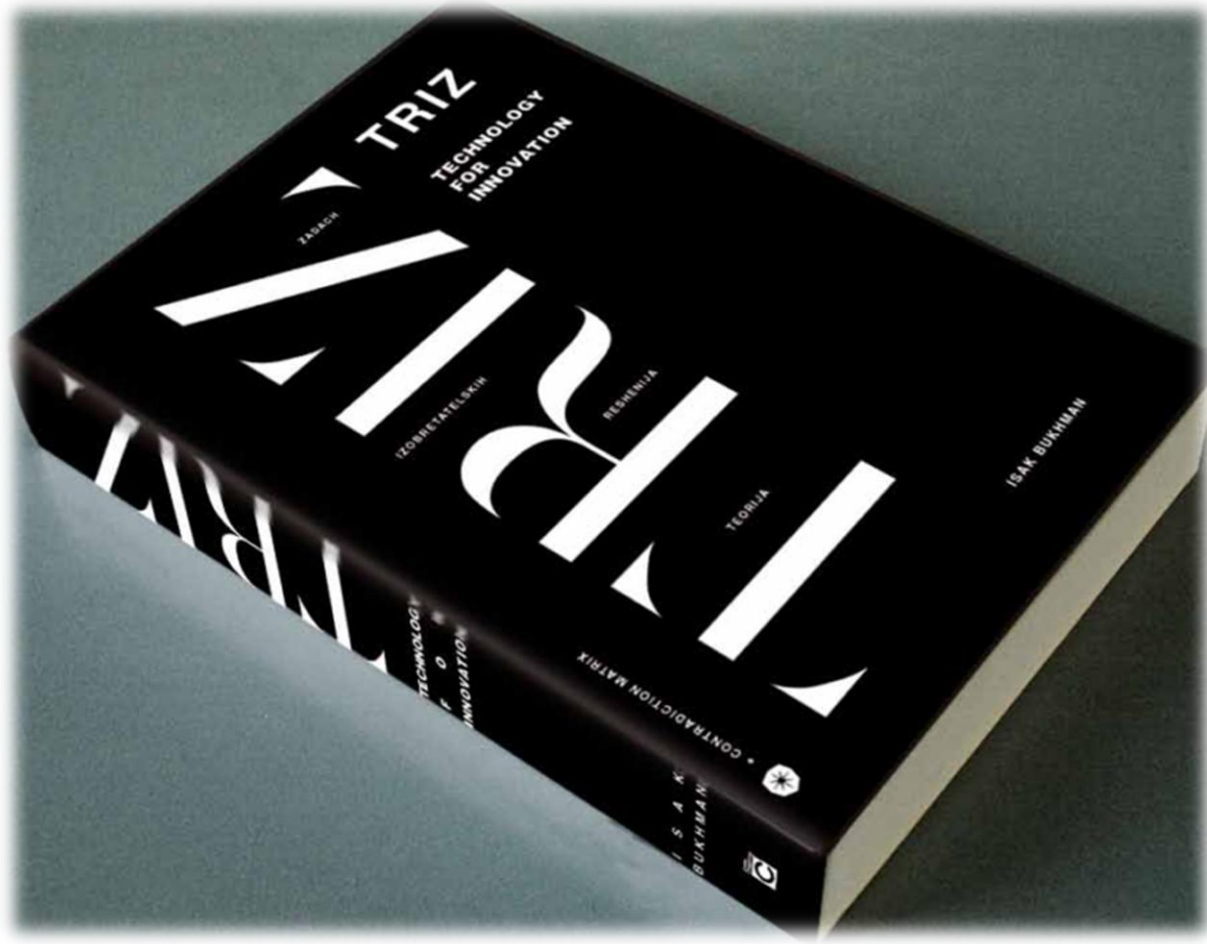
(TRIZ) Technology for Innovation

(book: chapter 11, pages 323-342)

Isak Bukhman (2012), *TRIZ Technology for Innovation* (English version). Taipei, Taiwan: Cubic Creativity Company

www.trizsolution.com

<https://www.amazon.com/author/isakbukhman>



Speaker Overview

Isak Bukhman, TRIZ Master & 6σ BB

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Isak Bukhman, TRIZ Master, President and Consultant of TRIZ Solutions LLC, and Vice President of the Altshuller Institute for TRIZ Studies.

Isak is a TRIZ, Value Methodology (VM) and Six Sigma specialist with more than 35 years of practice in the areas of product/process development and manufacturing.

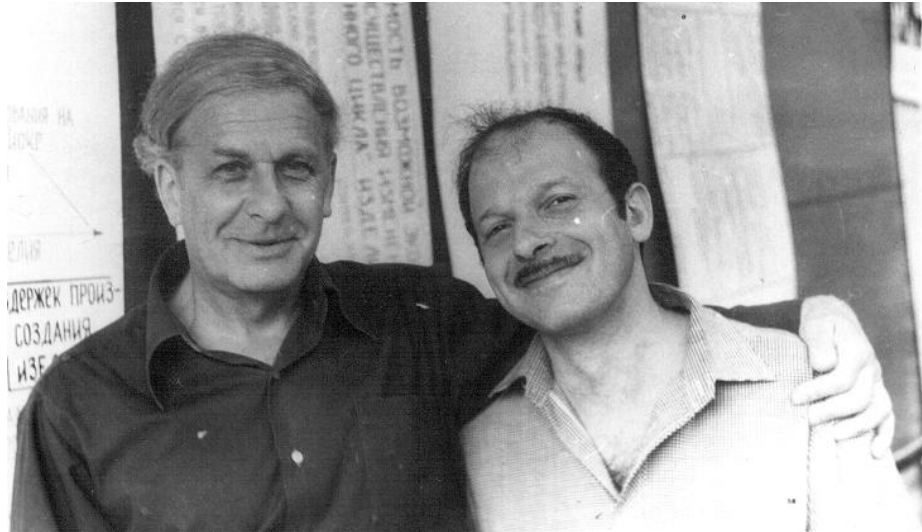
As their chief methodologist, Isak spent almost ten years at Invention Machine Corporation (IMC) while the company established its global reputation. He now works as an independent global consultant and owner of TRIZ Solutions, LLC.

During recent years, Isak has been active delivering TRIZ training workshops and guiding the development of more than 100 innovation projects in 14 countries (USA, UK, Spain, Germany, Netherlands, Russia, Israel, People's Republic of China, Hong Kong, Japan, South Korea, India, Taiwan, Singapore) for more than 40 leading global corporations, including Eaton, American Axle & Manufacturing, Johnson Controls, BYD, Bobcat, Shell, Masco-Behr, Baker Hughes, Chemtura, Henkel, Samsung, Intel, Microsoft, NXP, Johnson-Johnson, Mattel/Fisher-Price, Kaifa, GAF, Clorox, Corning, Compal, Epistar, General Dynamics Land Systems, Whirlpool, Alcon, Hospira, DePuyOrthopaedics, Flowserve, Savannah River Site, Steris, Biomerieux, Medtronic, Philips, Delphi, POSCO, Xinetics, BaoSteel and A.O.Smith Corporation.

Isak's work has also included the delivery of numerous basic and advanced training seminars (some together with Genrich Altshuller), education and training of thousands of managers, engineers and researchers in TRIZ/Value Methodology, and – closest to his heart – seven years of child and adolescent creativity (TRIZ) education in his native Latvia.

Isak is a representative (Certification No A-01 of 10/22/2004) of the International Association of TRIZ (MA TRIZ) and is authorized to deliver TRIZ Certification courses and to certify TRIZ specialists (Levels 1-3).

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Instructor's Experiences

Cross-industry Customers: *The Global 5000 Innovates with Isak*

MILITARY & DIFENSE	 
AUTOMOTIVE	        
OIL & CHEMICALS	   
CONSUMER GOODS	                
LIFE SCIENCES	       
INDUSTRIAL MFNG	          

Agenda

- 1. Couple words about TRIZ**
- 2. Understanding the System Development Process**
- 3. Finally about (TRIZ) Technology for Innovation**

1. Couple words about TRIZ

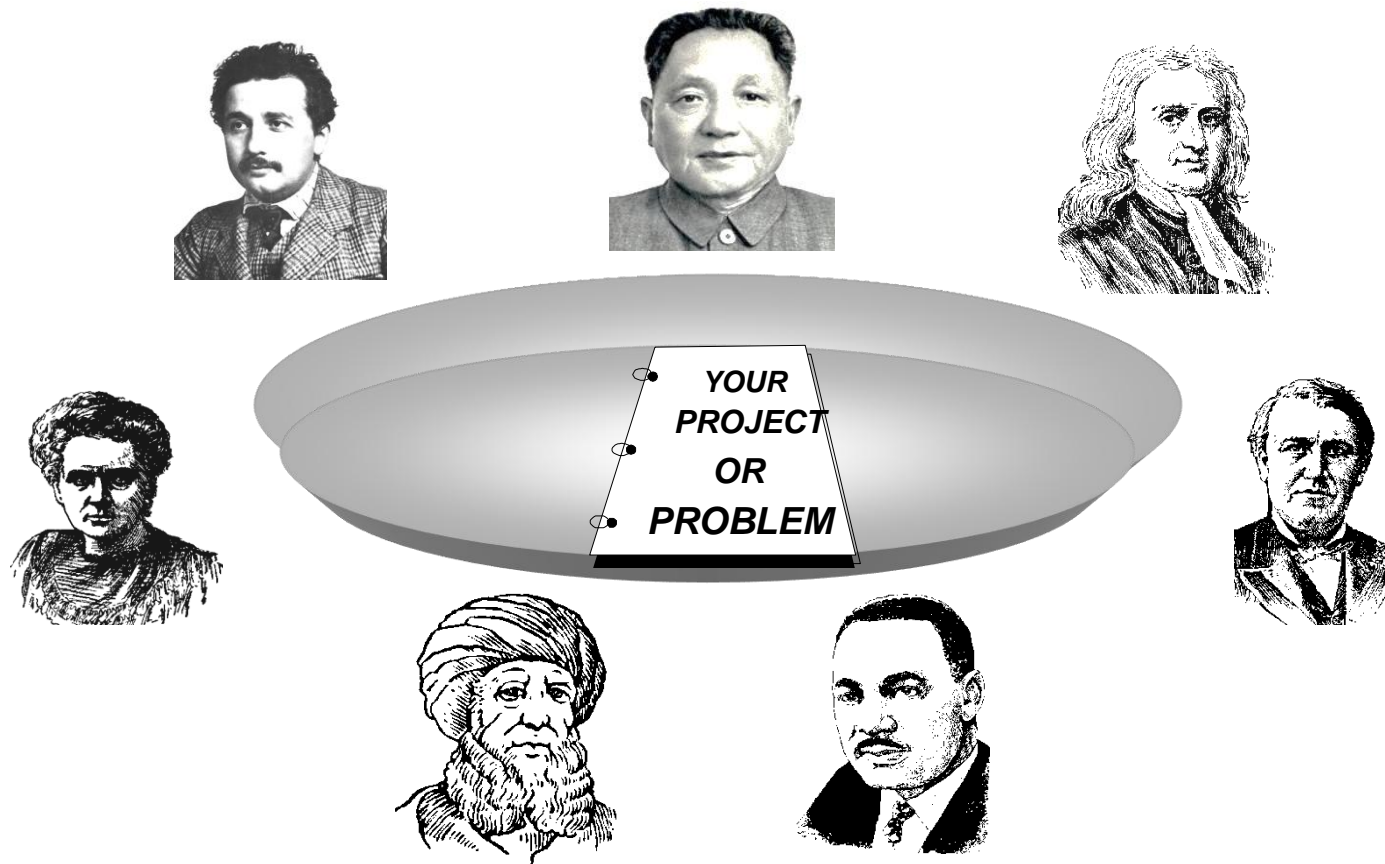
(book: chapters 1-10, pages 20-321)

**TRIZ is a science of
system development
based on laws of
systems evolution and
the best practices of
thousands of
developers and
scientists**

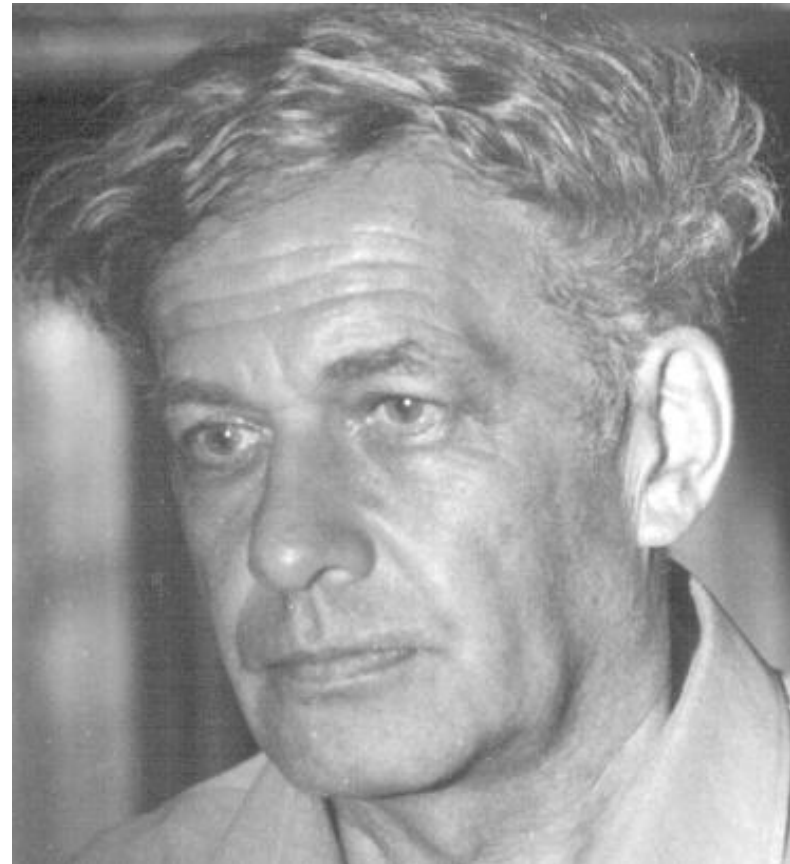
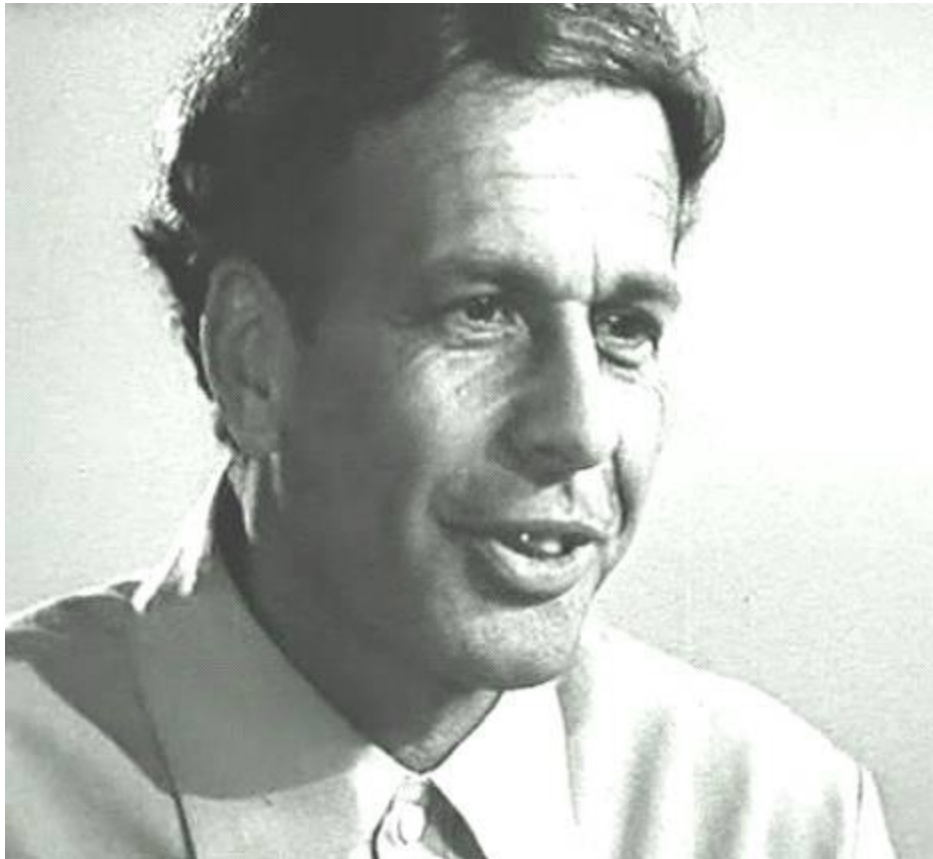


TRIZ “Theory of Inventive Problem Solving” is derived from world-wide patents.

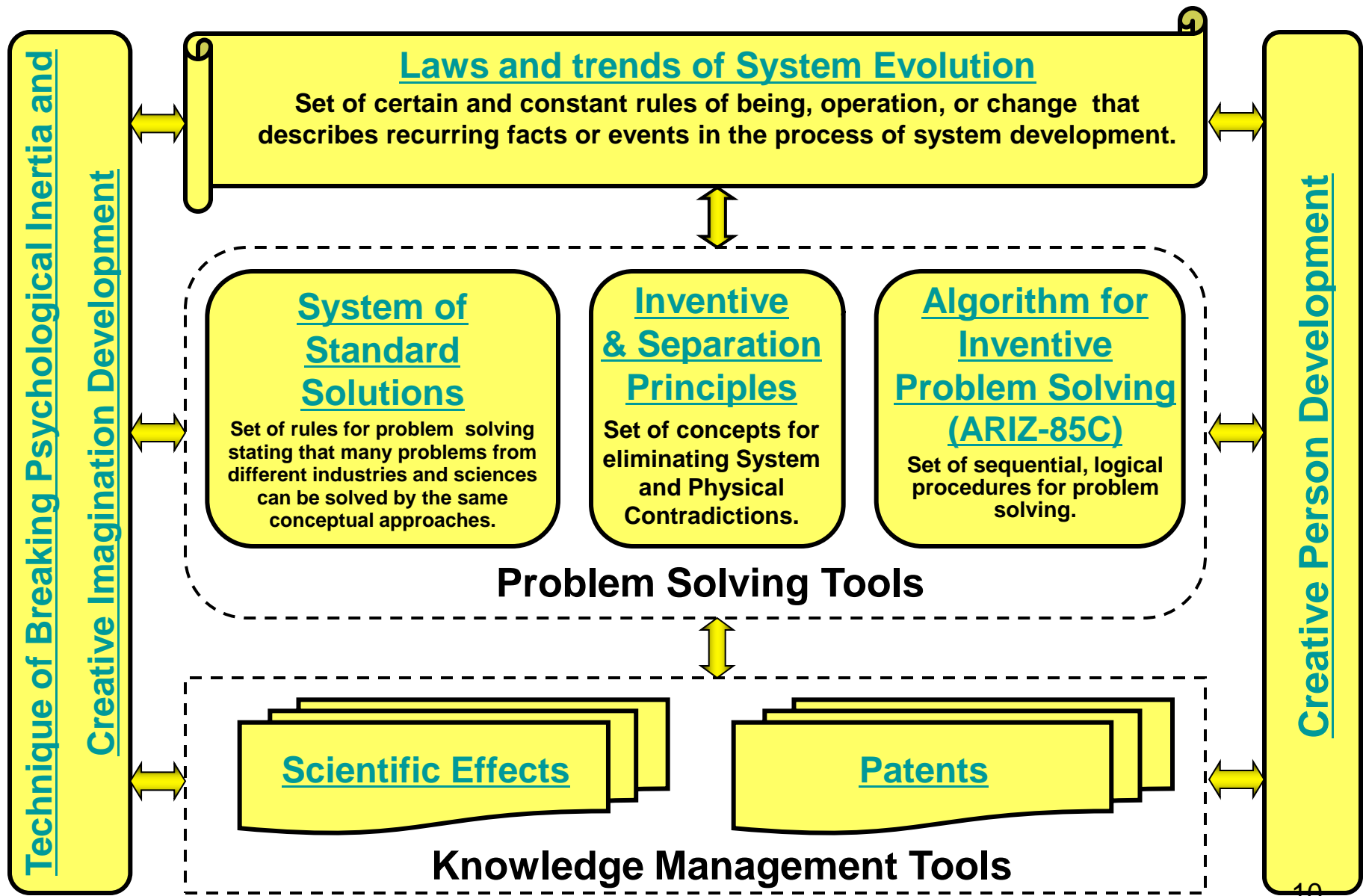
Problem solvers combine their knowledge with the knowledge of thousands of “silent” inventors and scientists.



**TRIZ was founded in 1946 by the
Russian engineer and scientist
Genrich S. Altshuller
(Oct.15 1926 - Sept. 24,1998)**



Structure of TRIZ



2. Understanding the System Development Process

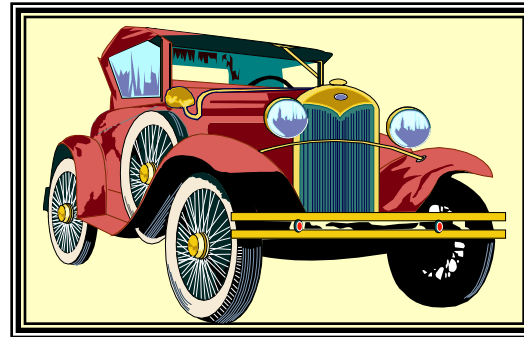
(book: chapter 2, pages 28-37)

Project - System Development Process

The subject of a project is selected at the onset of a project. It could be a cell phone, microchip, car, molecule, service, and so on. We call that subject as the system. That system, that initial situation in the present time, is our starting point of analysis. It is the first step of all project creation.

The Present

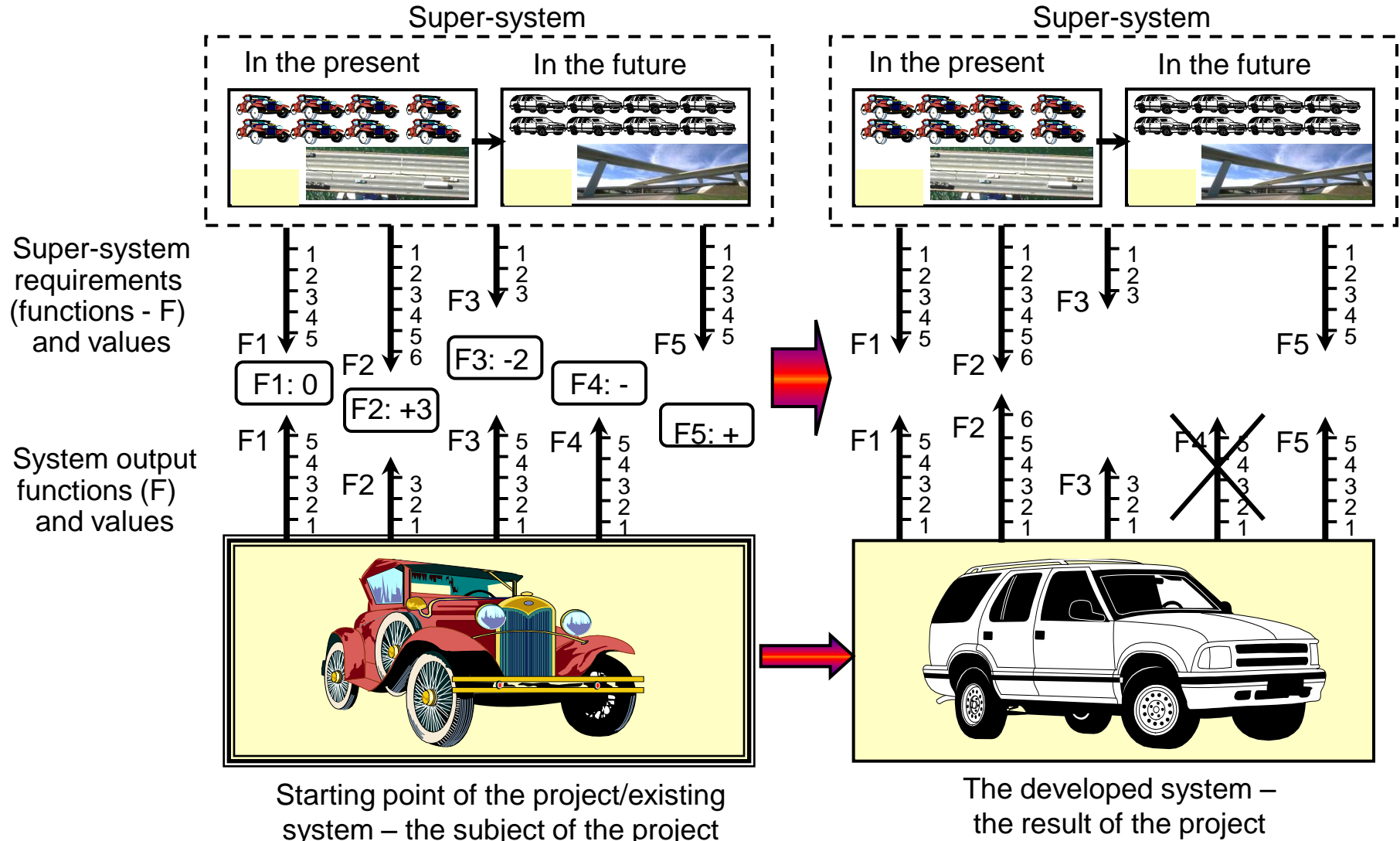
System Level:
defined by the subject
of the project



Starting point of the project/existing
system – the subject of the project

Project - System Development Process

The system, as the subject of the project, should be changed in order to satisfy the requirements of customers, other systems for which this system is a component, the environment where the system is used, the technology that producing it, and so on.



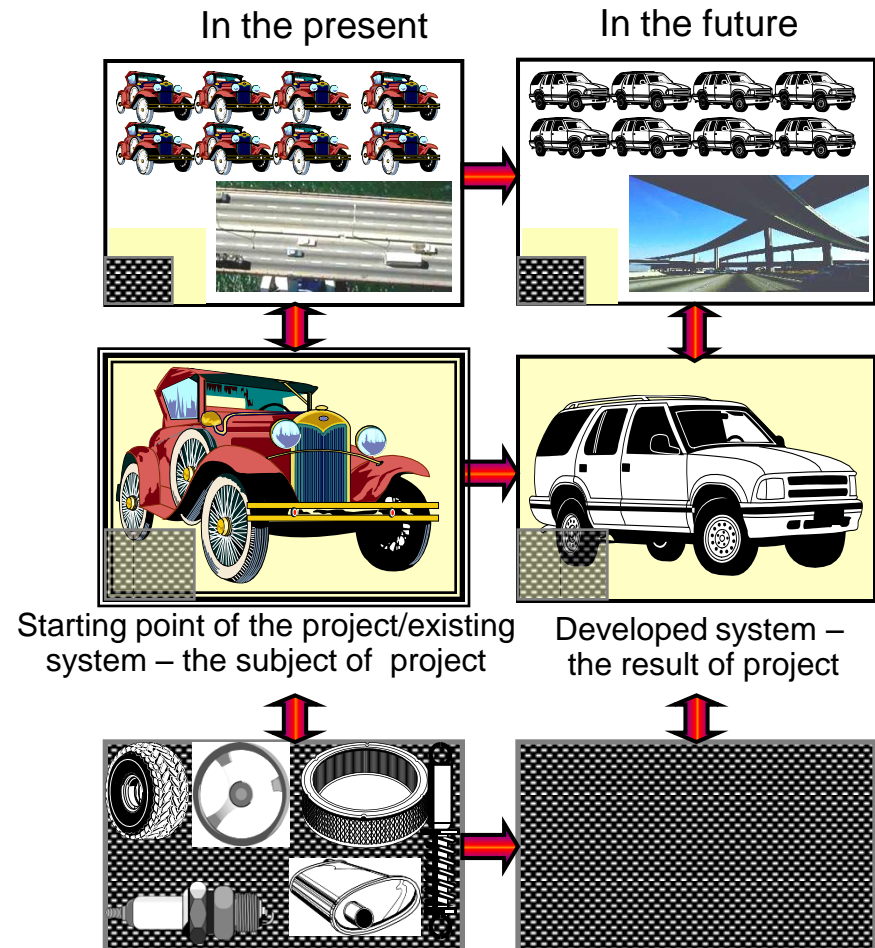
Project - System Development Process

Now it becomes clear what outputs of the developed system must be changed. We need two more screens to define how the system needs to be changed in order to create the required outputs. This can be done by changes to components and interactions of the system (subsystems).

Super-system Level:
system customers, system environment, other systems for which system is component, system producing technologies

System Level:
defined by the subject of the project

Subsystem Level:
components of system, interactions



3. Finally about (TRIZ) Technology for Innovation

(TRIZ) Technology for Innovation

is the process of using all parts of TRIZ in combination with other proven design development methods and best practices of effective project teams for system development and problem solving.

(TRIZ) Technology for Innovation

**is applying through Innovation
Roadmaps for project creation
and problem solving.**

Included in most complete TRIZ/GF Innovation Roadmap, along with TRIZ components, are the following methods and processes, but not limited:

proven design development methods

- Value Analysis and Value Engineering
- Root Cause Analysis (RCA)
- Failure Modes and Effects Analysis (FMEA)
- Hybrid (Alternative) System Design
- Trimming
- QFD
- Lean Manufacturing
- Six Sigma
- DFSS

Unique GF modules:

- Semantic Concept Retrieval Technique – Semantic Search
- Company Profile
- Competitive Analysis of Intellectual Activity
- Technology Analysis
- Patent Citation

processes based on best practices:

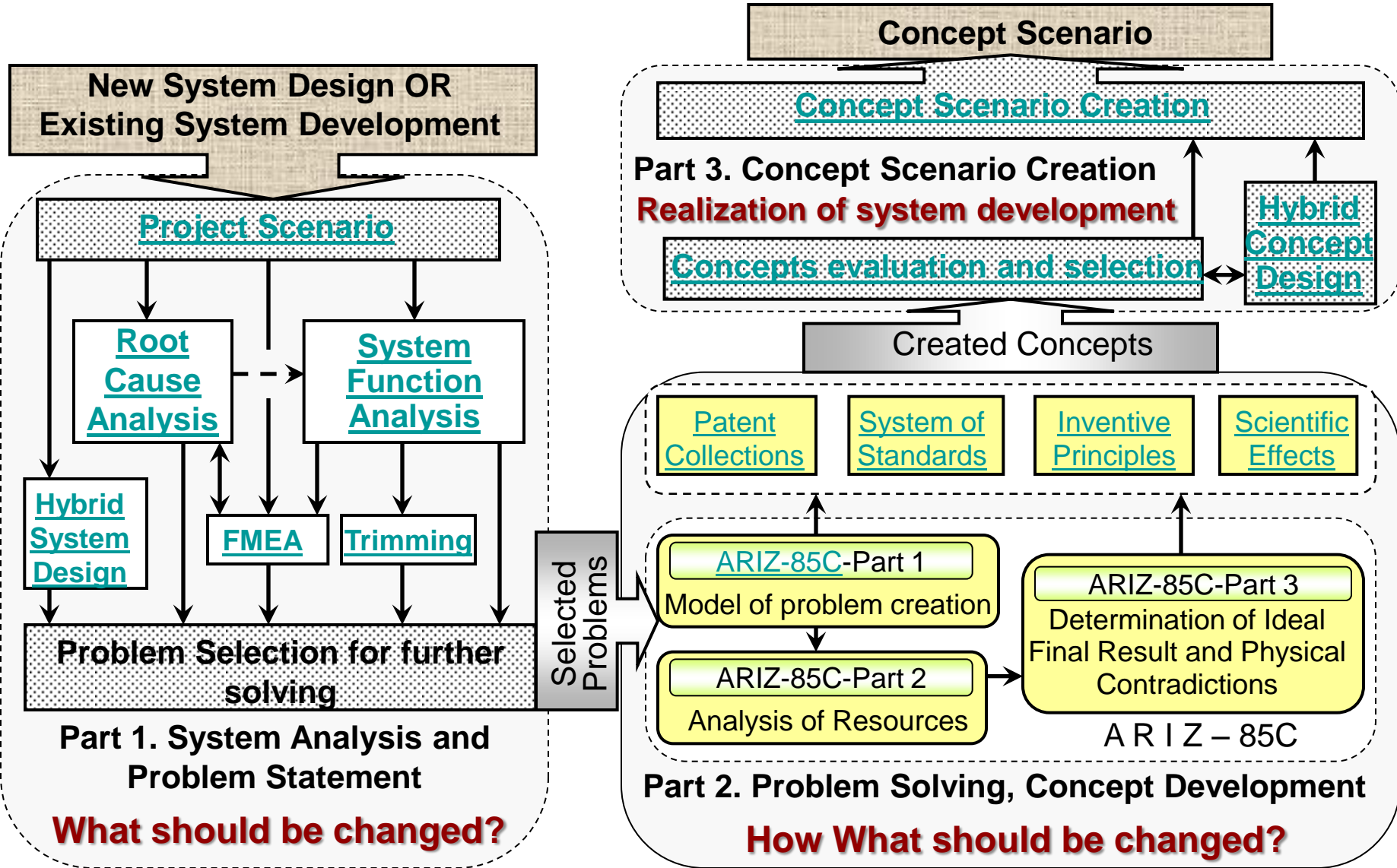
- Project Scenario
- Concepts Evaluation and Selection
- Hybrid Concept Design
- Concepts Scenario

(TRIZ) Innovation Roadmap

**is a complete set of tools
for the conceptual stage of
product/process/service
design.**

(TRIZ) Innovation Roadmap for Project Creation & Problem Solving

(most complete variant)



TRIZ Parts

Proven Methods

Best Practices

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Thank you very much

Your questions are greatly appreciated!

Isak Bukhman, TRIZ Master, Global Consultant,
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