TRIZ SUMMIT 2024

TRIZ Developers SUMMIT

TRIZ BIOPHARMA

RUSAL

TRIZ MASTER

TRIZ SUMMIT 2024

Ramez Kassou

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The Implementation of Project Activities and Development of Managing Infrastructure at RUSAL Enterprises via TRIZ Workshops

Evolution of TRIZ workshops at RUSAL facilities

2019–2022

TRIZ Workshop

5-day TRIZ course on training problems with an overview of a wide range of methods

2023

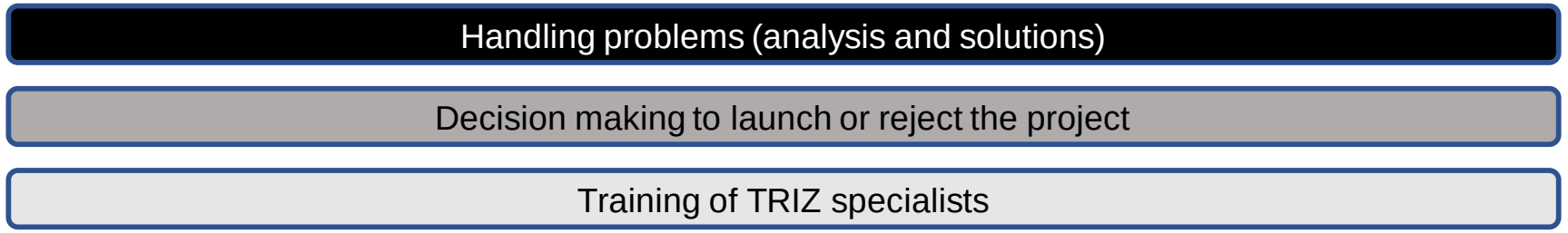
TRIZ Workshop+

2-module course (5 days for each module) on a practical problem with a reduced set of methods

2024

TRIZ Workshop+

5-day course on a mini-ARIZ project problem and additional methods on request



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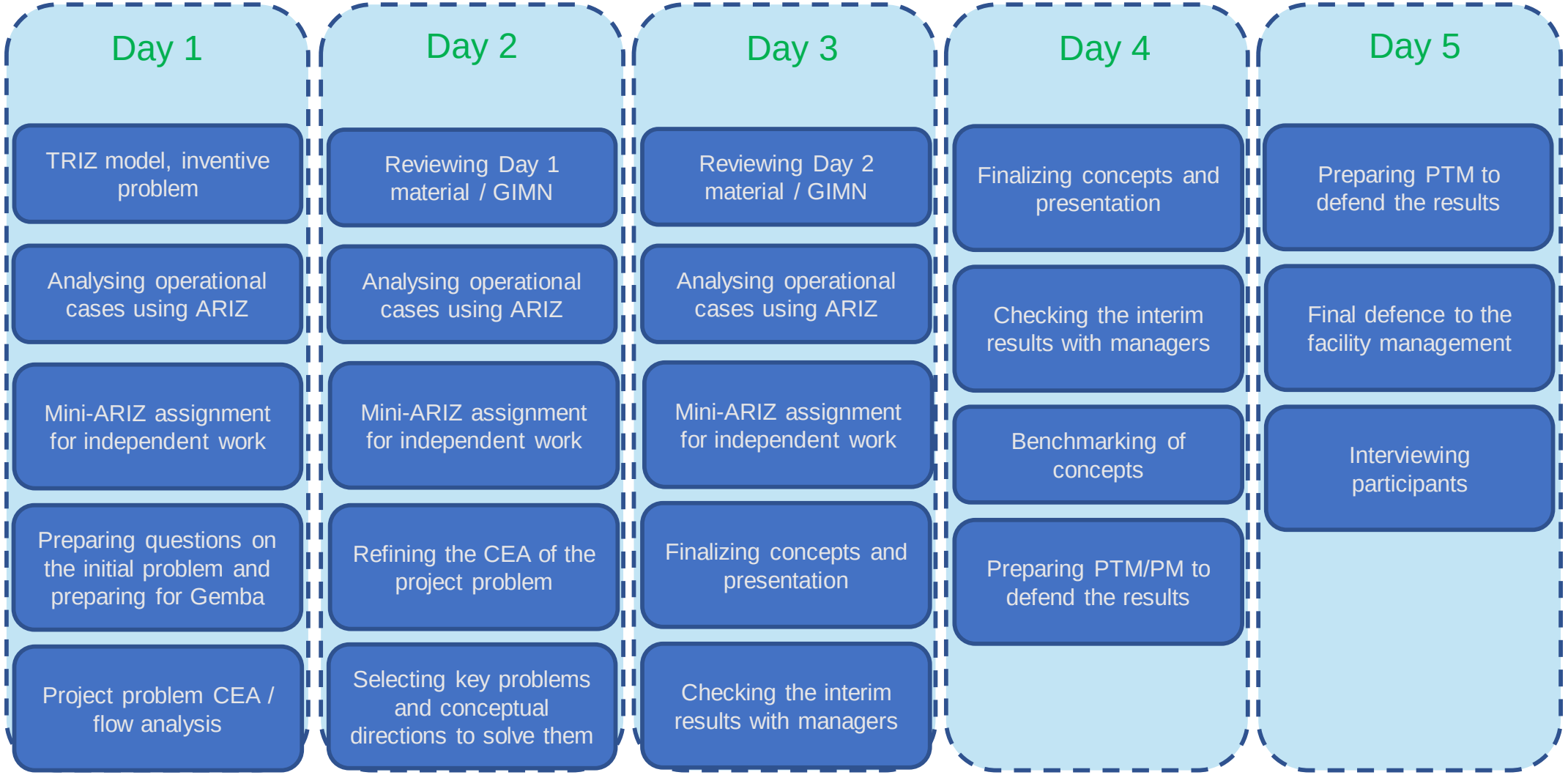
TRIZ Workshop+ format



PTM – Project team member
PM – Project manager

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Milestones and results of TRIZ Workshop+

	Prior to the workshop start	Day 1	Day 2	Day 3	Day 4	Day 5	After the workshop
1. Inventive problem identified	+	+	+	+	+		+ (when solving secondary problems)
2. Target and root UEs identified	+	+	+				
3. List of key problems identified			+				
4. Interim results of problem/task analysis verified with the Problem Setter and the PM			+				
5. List of conceptual directions for solving the problems identified			+				
6. Solution concepts obtained and described				+	+		
7. Interim results on solutions verified by the Problem Setter and the PM					+		
8. Ranking and order of actions completed based on the results of benchmarking of concepts or conceptual directions					+		
9. The plan (responsible persons and timing) for project verification and launching activities is defined						+	+
10. Final presentation prepared and sent to the management					+	+	
11. Results 1, 2, 3, 5, 6, and 8 registered in IS and Compinno-TRIZ software	+	+	+	+	+	+	+
12. New specialists added to the PTM/PM file						+	+
13. New training and methodological cases formalised							+

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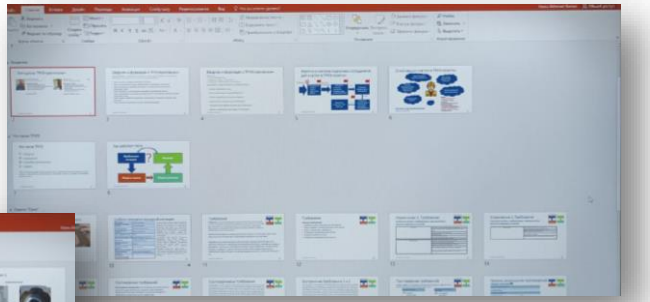
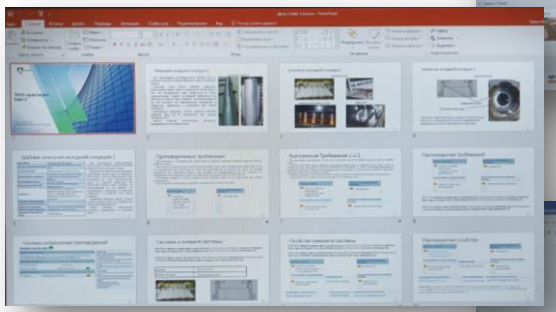
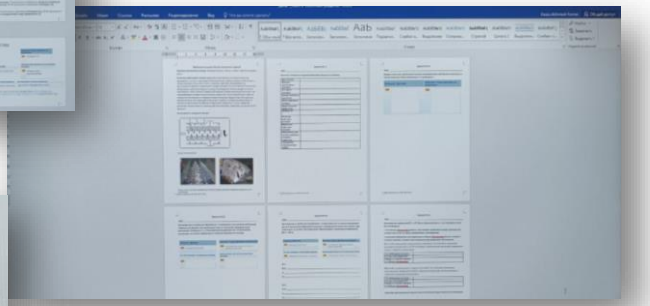
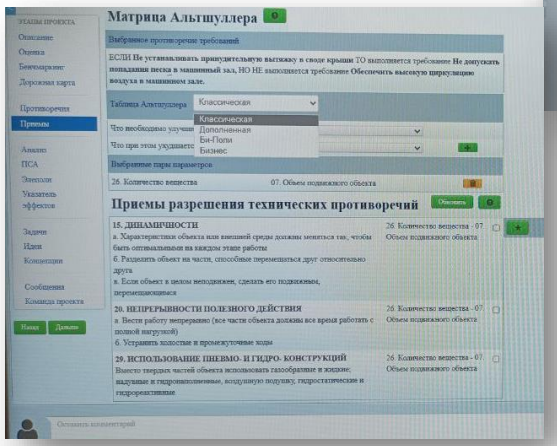
Methodological materials

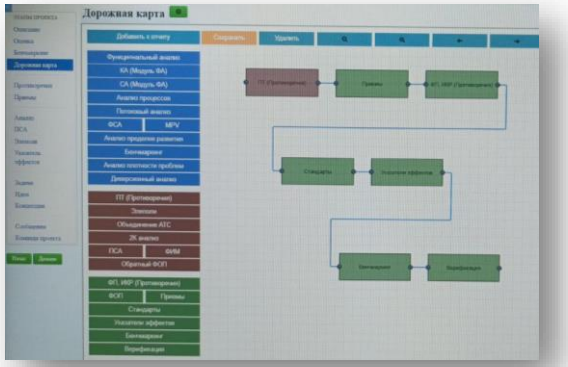
- Familiarisation with mini-ARIZ tools using simple examples
- Analysing operational cases using mini-ARIZ
- Step-by-step assignments from implemented projects
- Classic and augmented Altshuller's matrix with contradiction resolution techniques
- Compinno-TRIZ software interface











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Final defence

- Presentation materials
- Solution prototypes
- Analytical results

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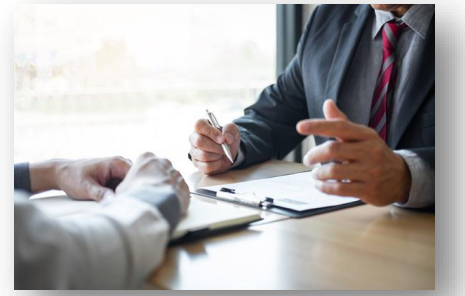
Interviewing participants



- Participants' feelings, emotions and thoughts regarding the workshop and its results
- Difficult and easy aspects of the workshop
- A source of pride for yourself and the team
- Actions you are willing to take or have already taken to build on success
- Technical equipment
- Prospects of participation in the project and motivation
- Recommendations

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Lead trainer's role in ensuring the success of the workshop

Methodological aspects	Requirements for the lead instructor
Continuous involvement of all the participants in the programme activities (familiarisation with the presentation materials, assignment of roles in Compinno, preparation of the results for the report)	Closely monitors the participants' activities and condition, motivating productive engagement.
All participants receive timely feedback and complete responses on completed assignments	Allocates time to review and discuss completed assignment forms on the first three days.
Interim results of the project problem development are verified by relevant experts and managers in a timely manner	Up until the defence, ensures data exchange between the workshop participants and responsible persons (in particular the future project PM) concerning the correctness of the problem analysis and the developed concepts.
All the participants understand and can reproduce the basic TRIZ knowledge/skills (concepts and definitions, step-by-step actions to solve an inventive problem)	Applies various approaches to review the material until this goal is achieved.
Some of the participants are ready to become PTMs/PMs for the facility's future projects	Conducts interviews with the participants, identifying their strong and weak points and enhancing their interest in new activities.
The Compinno software has records of the participants' work in the required form for generating reports on the conceptual phase of the project	Ensures the quality and presentability of the analyses and benchmarking performed (matching the concept names and terms with those used in the presentation). Troubleshoots technical problems of software users in a timely manner and ensures mastery of basic skills.
The presentation report material is thoroughly researched and clear to outside listeners	Monitors the completeness of data related to analysis and problem setting, description/calculation and ranking of concepts, risk forecasting and future actions.
Facility managers present during the defence have a good understanding of the TRIZ project business process' specifics, as well as the workshop's goals and objectives; they are ready to discuss the results in the course of the defence adequately	Talks through the main points and provides necessary explanations in the course of the defence. Provides ready-made materials before the defence (report presentation sent out to invitees in advance).
At least one inventive problem of the conceptual future TRIZ project is identified during the workshop	Assesses the quality of the pre-project work to identify and solve an inventive problem that reflects the non-trivial nature of one or more of the key problem(s). Ensures that said problem(s) is (are) included and demonstrated in the main part of the final defence.

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Lead trainer's role in ensuring the success of the workshop

Organisational aspects
Methodological knowledge is transferred to the participants in accordance with the specified programme sections
Evaluation files and PTM/PM cards are filled in by the end of the workshop
The final defence minutes include the necessary items to fully conduct the conceptual phase for project launching (if needed, it should be extended for verification, and secondary objectives should be analysed)
The room is equipped with everything required for the participants' convenience (furniture, stations, projectors, blackboards, handouts, water, etc.)

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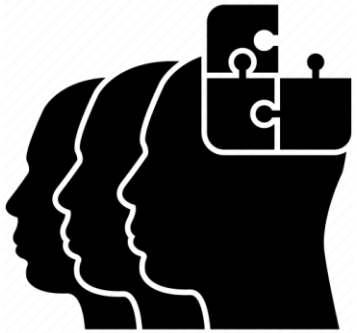
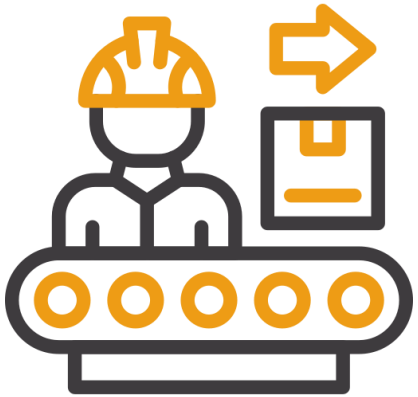
Challenges and risks in the course of workshop implementation





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Opportunities for improvement

- Introduction of tools for advanced automation of the TRIZ tools
- Advanced TRIZ training for the lead trainer and deputy lead trainer at the facility
- Improvement of the quality of methodological materials and handouts
- Improvement of the quality of problem data development and selection of participants
- Engagement of workshop trainees in new projects as PTMs/PMs
- Involvement of internal experts (methodologists, facility specialists) in developing Compinno-TRIZ problems
- Flexibility of approach in the implementation of workshops and individual planning of its events, taking into account the specifics of the tasks and needs of enterprises.

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Q&A

SESSION

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THANK YOU!

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