

Appendix 3 to Multi-stage TRIZ Certification Regulations

TRIZ Level 5 (TRIZ Master) Certification Regulations

Updated version as of February 28, 2018

1. TRIZ Level 5 (TRIZ Master) Certification Regulations is an appendix to Multi-stage TRIZ Certification Regulations accepted at MATRIZ and assuming a 5-level certification system. TRIZ Master qualification corresponds to level 5 and is the top professional level within this system. Issuance of TRIZ Master diplomas to specialists, who made the largest contribution to TRIZ development, is destined to continue traditions, laid in the International TRIZ Association by its First President G. S. Altshuller. TRIZ Master degree is conferred for research-related contribution to TRIZ development and for outstanding achievements in the field of practical application of TRIZ. TRIZ Master degree is conferred based on defended thesis or based on a set of research publications or contribution to practice in the field of TRIZ or related to TRIZ application.
2. The main goals of organizing level 5 (top level) certification in MATRIZ are:
 - development of TRIZ as an applied discipline, including the development of methodological grounds of TRIZ, tools for problem analysis and synthesis of inventive problem solutions, etc.;
 - promotion of activation of research activities in the field of TRIZ and social recognition of personal contribution of researchers in the development of TRIZ as an applied discipline and practical application of TRIZ;
 - broadening the scope of opportunities for practical use of TRIZ,
 - promotion of activation of practical use of TRIZ and social recognition of personal contribution of TRIZ practitioners.
3. All TRIZ Master diplomas, issued by the International TRIZ Association, give equal rights to their owners, irrespective of the date of diploma issuance.
4. Every candidate for TRIZ Master certification, by defense and on merits, must be certified on Level 4. As an exception, a candidate may write an official letter to MATRIZ Presidium asking for applying for Level 5 certification without having Level 4 certificate.

It is necessary for the applicant to have scientific or practical publications in TRIZ (including abstracts of papers presented at the international conferences) related to the subject matter of the thesis (research work) to be defended or results of practical application of TRIZ.

It is a mandatory requirement that every candidate who applies basing on a set of publications (article 24) should have published at least one TRIZ related article in an indexed source.

It is recommended for thesis defense that every candidate should have published at least one article in an indexed source on the thesis topic.

Note: "indexed source" means a journal or conference proceeding indexed by the databases of quality scientific publications: SCOPUS and/or Web of Science.
5. In order to pass level 5 certification, the applicants should prepare a thesis on TRIZ and defend it at TRIZ Master Certification Council (TMCC) session, with the exception of cases when TRIZ Master degree is conferred based on a set of publications (article 24) or for outstanding achievements in the field of practical application of TRIZ (article 25).

Each applicant for the thesis defense should pass through a pre-defense procedure that involves only the applicant and the pre-defense committee members. The pre-defense may be in person event or via electronic means (Skype, WebEx, etc.). TMCC selects 2-3 prominent TRIZ experts that have experience in the particular area of thesis' topic. This committee performs a pre-defense and submits their recommendations to TMCC in a written form. Based

on the recommendations TMCC decides whether to allow the defense or not. Members of this group could be later selected as members of the TMCC.

Some of the pre-defense committee members may be L4 TRIZ experts (not mandatory TRIZ Masters only) specializing in the topic of dissertation, and experts from science/engineering domain.

6. TMCC sessions take place predominantly during one of the annual international TRIZ conferences as agreed upon with the organizers of the said conferences. Each applicant should be present at the session of TRIZ Master Certification Council. In an exceptional case the virtual participation could be allowed under a special request only for the candidates who applied on merit (see articles 24 and 25), e.g., via Skype, Google Hangouts, etc. Virtual participation has to be approved in advance.

Note: TMCC can consider no more than 4 thesis defenses during any session. Depending on the number of thesis defenses, the maximum number of applications on merit could vary from 2 to 4. The applications submitted earlier have higher priority.

7. The date and the venue of next session of TMCC is established by the MATRIZ Presidium no later than 4 months prior to the session.
8. The Chairman and Academic Secretary of the TRIZ Master Certification Council are responsible for the composition of TMCC. The list of candidates for the members of the TMCC, from 7 to 12 persons, is formed (if possible, no later than a month prior to the session) from the list of TRIZ Masters, who plan to be present at the session. Specifics of applicant's TRIZ activities is taken into consideration when selecting members of the TRIZ Master Certification Council - this is done to ensure that only TRIZ Masters who are actively involved in practical improvement of products and technologies will take part in the evaluation of TRIZ practitioners' achievements. The final list of TMCC members is reviewed and approved by the MATRIZ Presidium not later than one week after submission of the list.

After the list of TMCC members is approved by the MATRIZ Presidium, the information about it is published on the MATRIZ web-site.

The Chairman of TMCC may substitute TMCC members, who unexpectedly withdrew, for someone out of TRIZ Masters present at the TMCC session.

9. The Chairman of TRIZ Master Certification Council, preferably MATRIZ Presidium member, is appointed by MATRIZ Presidium for the same period as the elected Presidium (2 years). The Chairman of TMCC directs its activities, works out the policy of functioning of TMCC, presides over TMCC sessions or appoints the Chairman from the members of the TMCC.
10. The Chairman of the TRIZ Master Certification Council appoints the Academic Secretary of the TRIZ Master Certification Council, whose functions include solving of organizational problems of the TRIZ Master Certification Council functioning, conducting the documentation and other organization and information work associated with the preparation for conducting the level 5 certification (TRIZ Master).
11. TRIZ Master Certification Council appoints opponent(s), (no more than two), of the thesis under consideration. The opponent(s) opinion should be submitted 2 weeks before the TMCC session. Recommended structure of the opponent(s) opinion is part of Appendix 14.

Note: If both official opponents provide negative opinion of the thesis, then the applicant is not allowed to proceed with the defense.

12. No later than three months prior to the session of TRIZ Master Certification Council, the applicant should send to MATRIZ (addressed to the President of MATRIZ and the Chairman of TMCC (a copy should be sent to the Academic secretary of TMCC) an application in Russian or in English. It should contain a letter addressed to the President of MATRIZ with a request to consider the application, contact information, last, first name and middle name of the applicant, number of certificate of level 4 TRIZ specialist (or a copy of diploma of TRIZ methodologist signed by G. S. Altshuller), title of the thesis, name and contact information of thesis scientific/research supervisor (TRIZ Master), short abstract of the thesis (no less than 1000 symbols) and a picture of applicant.

If an applicant does not plan to defend a thesis and applies for TRIZ Master certification based on a set of publications or for outstanding achievements in the field of practical application of TRIZ, this must be indicated in his/her application. In this case an applicant's curriculum vitae must be submitted together with the application.

Note: All applicants should satisfy requirements described in the current Level 5 (TRIZ Master) Certification Regulations. There should be no exception under any circumstances.

Candidates for the TRIZ Master certification, based on a set of publications or for outstanding achievements in the field of practical application of TRIZ, may be nominated by regional TRIZ organizations, MATRIZ members. In this case, a regional TRIZ organization must send an application addressed to MATRIZ President and TMCC Chairman (with a copy to the Academic Secretary of TMCC). The application should contain a curriculum vitae of nominated candidate, brief description of his/her achievements and at least seven written recommendations from TRIZ Masters No later than during one month after submission of an application, TMCC makes a decision regarding approval or rejection of such application.

13. No later than six weeks prior to TMCC session, the applicant should send to MATRIZ TMCC (addressed to the Chairman of the TRIZ Master Certification Council and to the Academic Secretary) all information necessary for the review of the thesis: the thesis itself, author's abstract, review written by the research supervisor (it is acceptable to submit this review immediately prior to the TMCC session), and curriculum vitae of the applicant. All materials are prepared either in Russian or in English.

Author's abstract of the thesis is submitted both in Russian and in English. All TMCC members should have access to all materials of the applicant's thesis

All thesis materials (the thesis itself, abstract, and supervisor's review) have to be published on MATRIZ website within 10 days after their submission to the TMCC. Any individual TRIZ expert or regional TRIZ organization have rights to send their comments on the published thesis to the TMCC.

Every TMCC member must submit at least 3 questions for the candidate two weeks before the TMCC session.

14. Main requirements for the thesis

Thesis on TRIZ is a methodological qualification work, in which, based on the research performed by the author, theoretical provisions have been developed, the set of which could be characterized as a new research achievement (e.g., a new direction of methodology development, which is identified and developed by the applicant; essential revision of traditional subject fields), or a significant research problem is solved, or substantiated solutions are rendered, the implementation of which contributes significantly to a certain field

of engineering. References to the earlier works of the applicant are allowed only if they were published before the defense event.

TRIZ thesis should be written by the applicant alone, it should contain a set of new research results and assertions set forth by the author for public defense, it should be characterized by intrinsic unity and should be a manifestation of the personal contribution of the author.

The thesis should contain a systematized theory, a concept, embracing the subject field corresponding to the theme.

The thesis should meet the following criteria:

- novelty of research work (which could be obtained either as a result of studying another subject field, or by applying new methods and means of cognition to the subject field, which was researched before, or the study of new subject field using new technologies);
- significance of the topic of research;
- instrumentality and efficiency of proposed conclusions;
- presence of practical results;
- reproducibility of results in using proposed methods.

Quality of thesis preparation and presentation is also considered to be an important criterion for thesis defense.

15. The volume of Thesis – no less than 30 pages. The volume of dissertation abstract – no less than 5 pages. Dissertation abstract and the thesis are presented in soft form and in hard copies: Thesis - in the number of 7 copies (1 – to the TRIZ Master Certification Council, 2 – to the opponents, 2 - to the Fund of materials of MATRIZ and to Fund of TRIZ materials of Tchelyabinsk District Universal People's Library (TDUPL), 1 copy to the scientific advisor and 1 copy to the applicant); dissertation abstract – no less than 18 copies (12 – to the members of TRIZ Master Certification Council, 2 – to the opponents, 1– to scientific advisor, 2 – to the Fund of materials of MA TRIZ and to Fund of TRIZ materials of Tchelyabinsk District Universal People's Library (TDUPL), 1 – to the applicant).
16. Recommended structure of the thesis, dissertation abstract, review of the scientific advisor is quoted in Appendix 14. A monograph written by the applicant or a set of his/her scientific publications could be presented in lieu of the thesis.
17. Recommended process for the session of MATRIZ TMCC:
 - 1.5 hours are planned for the presentation and discussion of each of the theses;
 - this time budget includes brief introduction of scientific/research supervisor (5 minutes), the speech of the applicant (30 minutes), speeches of opponents (5 - 10 minutes each), questions to the applicant and his/her answers (30 minutes), concluding speech of the Chairman of the TMCC (5 minutes);
 - Questions to the applicants could be asked first only by the present members of TMCC. If there are no questions from the members of TRIZ Master Certification Council, questions can be asked by other persons present at the thesis defense session within the overall time budget; TRIZ Master Certification Council session is conducted by its Chairman or by the member of this council appointed by the Chairman.
 - Members of TMCC before the voting have a closed session to discuss the potential decision

The session of TMCC is open for any member of TRIZ community.

18. To arrange for the organization of its work, TMCC appoints a Returning Board from its members, which consists of three people (one is appointed the Chairman).

Decision concerning the thesis is taken based on secret ballot. No less than 7 (seven) members of the TRIZ Master Certification Council must take part in the voting. The number of TMCC members who took part in the voting is determined by the Returning Board based on the number of submitted voting ballots.

Voting procedure for the applicants on merit is the same as for those who defend thesis. For TRIZ Master Certification on Merits members of TMCC could vote remotely.

The following number of "YES" votes is required for a positive decision.

Number of TMCC members who took part in voting	Minimal number of "YES" votes required
12	8
10-11	7
9	6
7-8	5

Improperly filled voting ballot is considered as a "NO" vote.

TMCC members, who are scientific/research supervisors of a candidate, don't take part in voting on the thesis, in the preparation of which they participated. TRIZ Master Certification Council has the right to make decisions on the modification of the time schedule and program of its work.

19. MATRIZ Presidium accepts the decision of TRIZ Master Certification Council (having checked it for compliance with the provisions and regulations accepted in MATRIZ) and hands it over to MATRIZ President for approval, after which the Secretariat of MATRIZ President prepares and sends to new TRIZ Masters the diplomas, which are signed by MATRIZ President and Chairman of the TMCC or Chairman of the TMCC session. The signatures are verified by MATRIZ seal.
20. Specialists certified for level 5 (top level) of TRIZ get the TRIZ Master diplomas drawn up on a specially prepared form of MATRIZ (Appendix 15). The ground for TRIZ Master degree conferral - either the development of TRIZ as a methodology or achievements in practical application of TRIZ - is indicated in the Diploma in addition to the name of new TRIZ Master.
21. Information on new TRIZ Masters is published at the MATRIZ web-site within a week after the defense of the thesis.
22. All disputable issues on the decisions of TRIZ Master Certification Council are solved by MATRIZ Presidium and are approved by MATRIZ President.
23. The present provisions and alterations to them are accepted by MATRIZ Presidium and approved by MATRIZ President. Alterations made in the present Regulations have no retroactive effect and hence cannot be applied to decisions made before the date, on which amendments and alterations were made.
24. To apply for TRIZ Master certification based on a set of scientific publications, a candidate (or regional MATRIZ organization recommending this candidate) must submit the following materials to TMCC no later than a month prior to its next session:
 - copy of the certificate of level 4 TRIZ specialist;
 - list of published scientific articles on TRIZ (no less than 20 articles). If a candidate is an author of a published book or monograph on TRIZ, such a book (monograph) is considered

- to be an equivalent of five published articles. It is mandatory that a candidate has published at least one article in indexed published sources;
- list and abstracts of published patents of a candidate with indication of methodological aspects of TRIZ application;
 - list of TRIZ training seminars conducted by a candidate (each seminar should be no less than 40 hours long); and
 - recommendations from at least seven TRIZ Masters.

TMCC makes a decision based on the number of votes indicated in the table in Paragraph #18.

TRIZ Master, who recommended a candidate, has the right to be a member of TRIZ Master Certification Council and take part in voting for recommended candidate.

25. To apply for TRIZ Master degree for outstanding achievements in the field of practical application of TRIZ in the inventive or innovative activity, a candidate must submit the following materials to TMCC no later than a month prior to its next session:
- copy of the certificate of level 4 TRIZ specialist;
 - list and abstracts of published patents of a candidate (no less than in ten patent families);
 - list of innovation projects, in which the candidate was actively involved (no less than ten projects);
 - several examples (2-3) of the most effective and efficient solutions worked out by the candidate (without violating confidentiality provisions);
 - copies of articles and reviews on practical use of candidate's inventions, results of innovation projects, in which the candidate was actively involved (including implemented products and technologies, obtained economic effect, etc.);
 - summary (4-5 pages) on methodological aspects of TRIZ application in the practical work of the candidate; and
 - written recommendations from at least seven TRIZ Masters.

All documents of an applicant on merit should be organized within the recommended template. The application materials of Dr. Robert Adunka(2014) can be used as a template for candidates who apply for TRIZ Master Certification for outstanding achievements in the field of practical application of TRIZ in the inventive or innovative activity.

MATRIZ TMCC makes a decision by a number of votes indicated in the table in Paragraph #18.

TRIZ Master, who recommended a candidate, has the right to be a member of TRIZ Master Certification Council and take part in voting for recommended candidate.

Appendix 14

Recommended structure and content of the thesis abstract

- *General characteristic of research.*
- *Relevance of the topic of research.*
- *Goals and tasks of research.*
- *Scientific novelty of research.*
- *Practical significance of research.*
- *Main provisions to be discussed at the thesis defense.*
- *Personal contribution of the applicant.*
- *Implementation of the main provisions of research.*
- *Publications.*
- *Structure and volume of work.*

Author's abstract of the thesis is prepared in Russian and in English.

Recommended structure and content of the thesis

- *Introduction.*
 - *Relevance of the topic of research.*
 - *Goals of research.*
 - *Review of the known approaches to the analyzed problem.*
 - *Detailed statement of the problem.*
 - *Methods of solving the stated problem.*
 - *Results of performed research.*
 - *Practice of application.*
 - *Analysis of results of performed research.*
 - *Personal contribution of the applicant.*
 - *Conclusions and recommendations on application.*
 - *List of published works on the topic of the thesis.*
- The thesis is prepared in Russian and in English.*

Recommended structure and content of the adviser's review

- *Relevance.*
 - *Goals of research.*
 - *Main results.*
 - *Practical value of results.*
 - *Novelty.*
 - *Recommendation*
- The adviser's review is prepared in Russian and in English.*

Recommended structure and content of the opponent's review

- *Relevance of the work.*
- *Goals of research.*
- *Scientific significance of obtained results.*
- *Practical value of results.*
- *Implementation of the main provisions of research.*
- *Novelty.*
- *Structure of thesis*
- *Disadvantages of the work.*
- *Characteristics of presented work.*
- *Conclusion.*

The opponent's review is prepared in Russian or in English.

A form of TRIZ Master diploma

Международная Ассоциация ТРИЗ (МА ТРИЗ)
Международная ассоциация профессиональных преподавателей, разработчиков и пользователей Теории решения изобретательских задач

The International TRIZ Association (MA TRIZ)
The International Association of Professional Trainers, Developers and Users of The Theory of Inventive Problem Solving

Diploma
Диплом

№ _____

This diploma certifies that
Настоящий диплом удостоверяет, что

has a high professional knowledge and skills of practical application of The Theory of Inventive Problem Solving (TRIZ) in conformity with the requirements of The International TRIZ Association.
обладает высокими профессиональными знаниями и навыками применения на практике Теории решения изобретательских задач (ТРИЗ) в соответствии с требованиями Международной Ассоциации ТРИЗ.

The International Association of TRIZ has conferred upon
Международная Ассоциация ТРИЗ присвоила

Mr/Mrs _____ the qualification of TRIZ Master
Г-ну (г-же) _____ квалификацию «Мастер ТРИЗ»

President of MA TRIZ _____ / _____ /
Президент МА ТРИЗ _____ / _____ /
Chairman of the Certification Board of MA TRIZ _____ / _____ /
Председатель Диссертационного Совета МА ТРИЗ _____ / _____ /

The ground for TRIZ Master degree conferral - either the development of TRIZ as a methodology or achievements in practical application of TRIZ - is indicated in the Diploma in addition to the name of new TRIZ Master.