

World Conference: TRIZ FUTURE 2011-2014

## TRIZ and Knowledge-Based Innovation in Science and Industry

Denis Cavallucci<sup>a,f</sup>, Gaetano Cascini<sup>b,f</sup>, Joost Duflou<sup>c,f</sup>, Pavel Livotov<sup>d,f</sup>, Tom Vaneker<sup>e,f</sup>

<sup>a</sup> INSA Strasbourg, LGéCo, Design Engineering Laboratory, Strasbourg, 67084, France

<sup>b</sup> Politecnico di Milano, Dept. Of Mechanical Engineering, via La Masa 1, 20156, Milano, Italy

<sup>c</sup> KU Leuven, Centre for Industrial Management, Dep. of Mechanical Engineering, Celestijnenlaan 300A, 3001 Leuven, Belgium

<sup>d</sup> Offenburg University of Applied Sciences, Badstr. 24, 77652 Offenburg, Germany

<sup>e</sup> University of Twente, Drienerlolaan 5, 7522 NB, Enschede, The Netherlands

<sup>f</sup> European TRIZ Association ETRIA e.V., Basler Str. 115, 79115 Freiburg, Germany

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### Editorial

The process of technical and technological innovation is currently undergoing radical changes. The Theory of Inventive Problem Solving (TRIZ) – is an important factor in helping organizations manage their way through these challenges. TRIZ is regarded today as one of the most comprehensive, systematically organized invention knowledge and creative thinking methodologies, and has the following advantages over traditional innovation supporting methods:

- Acknowledged increase of creative productivity;
- Rapid acceleration of the systematic search for inventive and innovative solutions;
- Scientifically founded approach to forecasting evolution of technical systems, products and processes.

The European TRIZ Association (ETRIA) intends to function as a connecting link between scientific institutions, educational organization, industrial companies and individuals concerned with conceptual and practical questions pertaining to organization and processing of innovation knowledge. With this new publication, ETRIA is pursuing the following aims in accordance with its charter:

- Promotion of theoretical and applied research on structured innovation models, methodologies and tools with a focus on inventive design and creative problem solving;

- Promotion of exchanges among academic and industrial researchers with complementary background and research interests spanning from artificial intelligence to knowledge management, from design creativity to innovation and IP management;
- International observation, analysis, evaluation and reporting of scientific progress in these fields;
- Promotion on an international level of the exchange of information and experience of scientists and practitioners in TRIZ, of universities and other educational organizations;
- Development of TRIZ through contributions from dedicated experts and specialists in particular areas of expertise.

Since the early days of the ETRIA community, the efforts of presenting new TRIZ related contents have been focused in two directions: development of TRIZ and novel applications of TRIZ. As a result of 14 years of TRIZ Future Conferences, the ETRIA database now contains a wide variety of papers, prepared by TRIZ enthusiasts from academia, industry and consultancy. Both the number of the scientific contributions to the ETRIA conferences, as well as the scientific level of these contributions has increased steadily. Within the scientific community, TRIZ is more and more becoming a well-known and accepted methodology that facilitates directed innovation.

A dominant tendency in many international academic communities is to measure the significance and the dynamism of the research in a given field or of a particular researcher. For scientific articles the outcome of the measuring process relies to a large extent on the visibility of the papers; indexing of articles thus becomes an unavoidable step. To initiate the first steps in the direction of indexing TRIZ Future papers, ETRIA is continuing herewith a partnership project with the publisher Elsevier, as its Procedia Engineering publishing model was perfectly suited for this objective. For this second edition of publishing TRIZ Future papers under the Procedia flag since 2010, a subset of 114 scientific contributions from ETRIA's conferences has been selected. The papers, with a special focus on TRIZ science, originate from the years 2011 to 2014 and show contributions of the TRIZ community in the areas of design science, information and software as well as in sciences of education and management sciences. We hope that this thoroughly composed collection of articles will encourage other researchers to contribute to ETRIA's TRIZ Future Conferences in coming years.

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