



Tutorial: Parallel Evolutionary Lines

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Speaker Biography:

Dr. Simon S. Litvin is one of the world's foremost experts on innovation methodology, including TRIZ, Value Engineering, Open Innovation, etc. He has more than 40 years of experience developing, teaching, and implementing innovative methods. Dr. Litvin is one of the architects of advanced TRIZ methodology - GEN TRIZ. Dr. Litvin is one of the authors of modern Function Analysis, Trimming and Feature Transfer techniques, Cause-Effect Chain Analysis, Function-Oriented Search, and Main Parameters of Value Discovery. Dr. Litvin is the founder and CEO/President of GEN TRIZ, LLC, the biggest TRIZ-based company in the world. Dr. Litvin led numerous international consulting projects for Fortune 500 companies such as Alcoa, British American Tobacco, Clorox, Colgate-Palmolive, General Electric, Intel, Kimberly-Clark, Mars, Novartis, Pepsi, Owens-Illinois, P&G, Siemens, Tyco, and Unilever. Dr. Litvin has over 110 publications to his credit, including 6 books. He is an author of more than 30 patents. Dr. Litvin is a Vice President R&D of International TRIZ Association (MATRIZ) and Chairman of TRIZ Master Certification Council. He is a member of Altshuller Institute for TRIZ Studies and European TRIZ Association.

Abstract/Outline

Using analogies is one of the most powerful approaches to innovation. Classical TRIZ tool set includes the Clone Problems technique utilizing analogy based on the physical contradictions similarities. Unfortunately application of this tool is limited because of absence of any effective database of solutions resolving physical contradictions. TRIZ also revealed Trends of Engineering System Evolution (TESE) showing analogies in evolutionary stages of development of all engineering systems – products and technologies. However TESE are too general, they allow to identify right directions for further systems development rather than specific solutions. Another powerful analogy-based tool was developed within GEN TRIZ – Function-Oriented Search (FOS) that utilizes functional similarities. FOS is capable to bring specific practical solutions but doesn't reveal any trends

There is a clear market need – necessity to have a tool that allows to find in the leading area not just a specific solution, but an entire trend that ensures some product category or technology to be a leader and bringing impressive business results. Such a tool, Parallel Evolutionary Lines (PEL) was developed within GEN TRIZ methodology by S.Litvin and M.Gershman in 2005. It is a combination of FOS and TESE approaches that allows to identify and transfer the entire trends from the leading industries to the initial area. Knowing the evolutionary stage of a certain product or technology, it is possible forecasting, with reasonable confidence, the evolution of parallel systems.

GEN TRIZ, LLC successfully utilized PEL in multiple projects during last years. The Tutorial is furnished with case studies from real innovation projects.