

Newsletters Archive: <http://www.xtriz.com/newsletter/>

Content:

- News from xTRIZ (ICG T&C): New offers, Innovation Roadmapping, 10 Types of Tasks for Value Innovation, Report on Summer TRIZ Course 2012.
- Reports on TRIZ-related conferences in 2012.
- TRIZ and Systematic Innovation conferences in 2013
- New TRIZ books.
- More on TRIZ: Innovation and TRIZ at GE
- New inventions for your inspiration: commented with TRIZ
- TRIZ and Systematic Innovation public training courses in Winter-Spring 2013

NEWS FROM ICG T&C (xTRIZ)



TRIZ Services Subscription – Ends on January 31

This year we introduce a new type of service based on annual subscription. It is intended for businesses and professionals which are interested in having their actual problems solved creatively, developing innovation roadmaps, or those who are willing to learn or update their knowledge of TRIZ-based Systematic Innovation. Both technology and business/management areas are supported.

This service can be delivered onsite or remotely during entire year. Because it is based on advance payment, it can be an attractive offer, especially for group activities, training or coaching.

The offer is valid till January 31, 2013.

More information: http://www.xtriz.com/triz_year_subscription.htm



TRIZ-Based Innovation Roadmapping



Lately the use Innovation Roadmapping has been rapidly growing and currently we offer a service which uses TRIZ-based approach to assist development of roadmaps of new innovations. The tools which are used are Multi-Screen Analysis and the system of TRIZ Trends of Technology Evolution which bring the Voice of Product to the roadmaps and helps with forecasting new innovations based on exploration of directions of future product evolution.

If you like to know more, please contact us: info@xtriz.com



10 Types of Tasks for Value Innovation

I am often asked to help with innovation: in products, technologies, or business services. When I talk to people asking me, I find that rather often they do not realize exactly what kind of innovation they want. But innovative solutions and new ideas can vary significantly and solve different types of tasks. On top of that, to use systematic innovation tools (like TRIZ) we need to know what we want to achieve to select a right process.

The following classification of ten categories of tasks was introduced:

1. Improve quality of a product, process, or service: e.g. eliminate negative, unwanted and undesired effects, increase robustness.
2. Improve performance of a product, process, or service: e.g. raise performance of positive effects, functions, or other features.
3. Increase "compactness" of a product, process or service: e.g. decrease physical dimensions, process or service time, reduce energy consumption, or eliminate human involvement.
4. Improve ergonomics, usability and use comfort.
5. Improve design, aesthetics, psychological attractiveness.
6. Add new functions or features to existing products, process, services.
7. Create a radically new design (form, shape) of a product.
8. Radically cut either production or total ownership costs of a product, process, or service.
9. Find new application areas for an existing product (technology), process or service.
10. Create a radically new product, technology, process or service.

Some more general tasks like a general innovative improvement of a system, or patent circumvention were not included to this classification since they usually can be decomposed to one of these tasks.

In every area of innovation, a number of solutions in each category grows towards the top of this list. Statistically there are many more innovative solutions improving quality than radically cutting costs, for instance.

The question might arise: are the solutions to the tasks at the bottom of the list address disruptive innovations while solutions to the tasks at the top of the list are incremental? In most cases yes, but not always. Everything depends on a scale of change that should be made to achieve a specific goal. Sometimes to solve a quality-related problem, for instance, decreasing a number of accidents, a radical change of a basic principle behind a product or a service is needed which results in disruptive innovation.

In addition, an overview of tools which are used most frequently within xTRIZ framework to support these 10 types of innovative tasks. The overview can be found at: http://www.xtriz.com/cs/10_InnovativeTasks_ToolsTable.pdf



TRIZ Fundamentals Course 2012



Our annual course "TRIZ Fundamentals" was held on July 9-20, 2012. It was 2-week course which lasted 80 hours in Enschede, the Netherlands organized jointly by the University of Twente and ICG Training & Consulting.

The total class of 34 persons included B.Sc and M.Sc students from the universities of Enschede and Eindhoven, as well as several experienced professionals from the US, Indonesian and Dutch academy and industry. During each course we allow a limited number of external participants to join the course.

These two weeks provided a really "full immersion" TRIZ experience. Although we started each day at 09:00 and were supposed to finish about 18:00, sometimes students were working till 24:00. And our team of instructors was also busy every night with evaluating student works.

In addition to lectures, each day the participants were split to 11 groups, and each group worked on the following assignments with their own selected problems:

Formulation of Contradictions and Ideal Final Result, Root-Conflict Analysis (RCA+), Contradiction Matrix and Inventive Principles, Function Analysis and Trimming, 76 Inventive Standards, Value-Conflict Mapping, Functional Evolution, Evolutionary Potential Analysis and Trends of Technology Evolution, Ideas Evaluation and Landscaping. We also spent a day on solving a problem with ARIZ. The problem was brought by the audience, so it was a bit of a challenge.

Last two days the groups were performing a final assignment which included going through a full xTRIZ process: from problem definition to ideas evaluation and landscaping. This assignment included working on real problems, including problems brought by several participants. Some groups still have to finish their final assignments next week - no problem with that.

Each assignment project was evaluated every evening, thus in total we had to check over 100 submitted projects. Most of the time the techniques were used correctly, and many novel and exciting ideas were generated. The marks students got were quite high. As a result everyone obtained a certificate of a TRIZ Practitioner; and B.Sc and M.Sc students obtained 3 European Credits.

But for some students it is not over yet. Those who are interested can continue their formal TRIZ education by doing a TRIZ project at an industrial company or by doing a TRIZ-based research project later this year. These activities will be supported by the University of Twente.

We believe that the course went very well, and I am quite sure knowledge learned and skills gained will remain with most of the participants.

"This course changed the view I see the world", said one of the students during a closing discussion. This is the best evaluation of the course I love to hear.

Some video highlights from the course: <http://youtu.be/DQum7BG6DTY> (you can also watch it in HD quality).

Our next course is scheduled for July 8-19. 2013.

REPORTS ON TRIZ-RELATED CONFERENCES IN 2012

7th Iberoamerican Innovation Congress

November 15, 2012. Orizaba MX, Mexico

Report by Ellen Domb:

http://trizrealworld.blogspot.nl/2012_11_01_archive.html

Malaysia MyTRIZ Conference 2012

November 6-9, 2012. Penang, Malaysia

Report by Toru Nakagawa:

<http://www.osaka-gu.ac.jp/php/nakagawa/TRIZ/eTRIZ/eforum/e2012Forum/eMalaysia-MyTRIZ2012/eMyTRIZCon2012-NakaReport-121114.htm>

ETRIA Global Conference TRIZ Future 2013

October 24-26, 2012. Lisbon, Portugal

Summary by Valeri Souchkov:

<http://xtriz.blogspot.nl/2012/11/triz-future-2012-brief-report.html>

Report by Ellen Domb:

http://trizrealworld.blogspot.nl/2012_10_01_archive.html

The Eighth TRIZ Symposium in Japan

September 6-8, 2012. Tokyo, Japan

Outline by Toru Nakagawa:

<http://www.osaka-gu.ac.jp/php/nakagawa/TRIZ/eTRIZ/elinksref/eJTS/e8thTRIZSymp2012Post.html>

TRIZFest 2013

August 2-4, 2012. Lappeenranta, Finland

Report by Mark Barkan:

<http://matriz.org/wp-content/uploads/2012/07/Report-on-MATRIZ-Conference-TRIZfest-2012.pdf>

Report by Ellen Domb:

<http://trizrealworld.blogspot.nl/2012/08/trizfest-2012-in-finland.html>

The 3rd International Conference on Systematic Innovation & Global TRIZCON 2012

July 10-12, 2012. Seoul, South Korea

Report by Ellen Domb:

http://trizrealworld.blogspot.nl/2012_07_01_archive.html

FORTHCOMING TRIZ-RELATED CONFERENCES IN 2013



The 4th Joint International Conference on Systematic Innovation & IFIP Computer-Aided Innovation

June 27-29, 2013. Hsinchu, Taiwan

Sponsored by The Society of Systematic Innovation (SSI) & IFIP Working Group 5.4 (Computer-Aided Innovation)

<http://www.systematic-innovation.org/icsi/icsi2013/>



The 4th Global TRIZCON 2013 in Korea

July 9-11, 2013. Seoul, Korea

Hosted by: Korean Academic TRIZ Association (KATA)

<http://www.KoreaTRIZCON.kr>



TRIZFest 2013

August 1-4, 2013. Kiev, Ukraine

Organized by the International TRIZ Association (MATRIZ)

<http://matriz.org/trizfest-2013/>



The 9th TRIZ Symposium in Japan

TBA, September, 2013, Japan.

Organized by Japan TRIZ Society.

<http://www.osaka-qu.ac.jp/php/nakagawa/TRIZ/eTRIZ/eTRIZnews.htm>



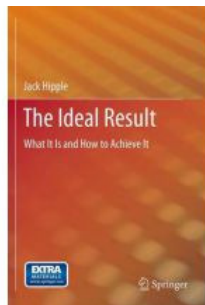
ETRIA Global Conference TRIZ Future 2013

October 29-31, 2013, Paris, France

Organized by the European TRIZ Association (ETRIA), TRIZ France Association, and ENSAM university in Paris.

www.etria.net

NEW TRIZ BOOKS



The Ideal Result: What It Is and How to Achieve It

by Jack Hipple

Springer, June 26, 2012, 208 pages.

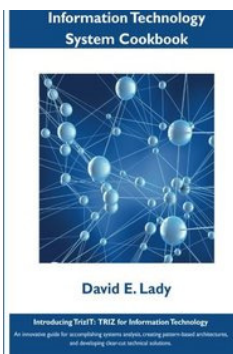
ISBN-13: 978-1461437062

Prices from \$99-129 on Amazon, also available in Kindle format \$103

<http://www.amazon.com/The-Ideal-Result-What-Achieve/dp/1461437067>

Review by Ellen Domb:

http://trizrealworld.blogspot.nl/2013_01_01_archive.html



Information Technology System Cookbook: Introducing TrizIT: TRIZ for Information Technology

by David Lady

CreateSpace Independent Publishing Platform (August 23, 2012), 242 pages

ISBN-13: 978-1478302513

<http://www.amazon.com/Information-Technology-System-Cookbook-Introducing/dp/1478302518>

Review by Ellen Domb:

http://trizrealworld.blogspot.nl/2012_09_01_archive.html

MORE ON TRIZ



Deploying TRIZ at GE

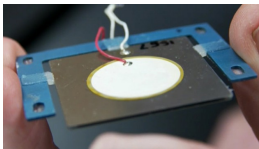
In this interview GE's Vice President, Advanced Technologies, Global Research, Michael Idelchik speaks with GEN3 Partners CEO, Garrett Dietz about innovation, R&D and conceptual design at GE and embracing TRIZ as a part of GE corporate training curriculum.

Video: <http://vimeo.com/34570797>

Source: www.gen3.com

NEW INVENTIONS FOR INSPIRATION

Most of the newest inventions presented below were probably made without TRIZ (although we just do not know if TRIZ was used to make them). But they can be used as nice illustrations of some TRIZ concepts and principles. Note that many inventions listed below use the principle of making systems more dynamic: transition from solid fixed structures towards more flexible ones to introduce more degrees of freedom.



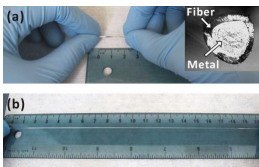
Cooling Jets Instead of Cooling Fans

No need to use a rotating cooling fan in your laptop any more. Instead use vibrating piezoelectric disks. New invention works silently and moves the same amount of air while saving 50% of energy. This invention **replaces Basic Operating Principle** to deliver a function of moving air: instead of electromechanical rotation, piezoelectric vibrations are used.

Video: <http://youtu.be/Hm5fXj-hUpk>

Reference: <http://www.gereports.com/here-come-the-cool-jets/>

Source: General Electric



Ultra-stretchable Electric Cable

This new research illustrates the use of increase **the degree of dynamics**: transition to more flexible, liquid materials. The basic construction of the new super-stretchy wires is an elastic tube filled with a highly conductive liquid metal alloy. Other attempts at stretchy wires, say the researchers, have relied on embedding conductivity into elastic, as opposed to separating them. The wires can be stretched up to eight times their original length.

Video: <http://youtu.be/QIVuIK5wAj0>

Reference:

<http://www.popsci.com/technology/article/2012-12/we-want-these-ultrastretchable-charging-cables-now-please>

Source: Popular Science



Inflatable Wine Cork

This invention uses inflated air instead of an ordinary cork or any rigid object. It shows a transition to using air in order to increase **the degree of dynamics** of a cork. Such a cork can work with almost any bottle.

The Air Cork consists of an inflatable latex bladder, attached by a hose to a squeezable hand pump. To use it, you lower the bladder into the bottle until it touches the surface of the wine, then pump it up until it seals against the insides of the bottle.

Video: <http://youtu.be/GK8HFLnpFgc>

Reference: <http://www.gizmag.com/air-cork-wine-balloon/25451/>

Source: Gizmag.com



Buildings Reinforced by Fabric

One more application of evolution towards a **higher degree of dynamics**. Developed by a team from Karlsruhe Institute of Technology (KIT) in Karlsruhe, Germany, the fabric is made from glass fibers and elastic polypropylene laid out in four directions, which adds strength. The fabric can be applied to older buildings using a special plaster, reinforcing exterior walls to help prevent cracks from forming during smaller earthquakes.

<http://www.gizmag.com/seismic-fabric/25664/>

Source: gizmag.com



Air Umbrella

Another application of evolution towards a **higher degree of dynamics**. Instead of using solid materials such as fabric or plastic a new umbrella uses a steady stream of air to move water drops away.

<http://gajitz.com/high-tech-umbrella-keeps-you-dry-with-invisible-canopy-of-air/>

Source: gatjiz.com

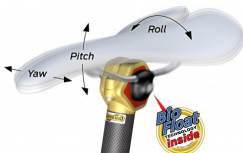


Sticking Flexible Solar Cells

Once again application of increasing **the degree of dynamics**. A research group at Stanford University, demonstrated a way to transfer the active materials of the solar cell from a rigid substrate onto another surface, such as a sheet of paper or plastic, the roof of a car, or the back of a smartphone. As with other solar cells, wires would then be connected to deliver power, but flexible solar cells could be used on curved surfaces, and, because they're lightweight, they would be easier to install than conventional panels.

Reference: <http://www.technologyreview.com/news/508946/flexible-solar-cells-can-stick-to-just-about-any-surface/>

Source: MIT Technology Review



"BioFloat" Bicycle Seatpost

Another use of using a **higher degree of dynamics**. The BioFloat seatpost is designed to let the seat move with the rider's pelvis.

Reference: <http://www.gizmag.com/biofloat-bicycle-seatpost/25181/>

Source: gizmag.com



Bicycle Saddle Lock

A good illustration of the principle of **Universality**. No separate locking device is needed to provide security if it's function can be delivered by an existing component. It is also illustration of **Trimming**, or **Functional Idealization**.

Reference: <http://www.gizmag.com/saddle-lock-bicycle-security/25783/>

Source: Gizmag.com



3D Portable Printer

By **segmenting** a 3D printer for easy assembly and disassembly, a portable 3D printer was designed which can be easily disassembled and carried in a bag.

Video: <http://youtu.be/Gm2RX4bBV0c>

Reference: <http://portabee3dprinter.com/>

Source: Portabee.com



Nested Batteries

The principle of **Nesting** is used in the concept of Battery.Family where one big mama battery houses other smaller sizes, making it easy for you to have Size D, Size C, Size AA and Size AAA in one nifty design.

<http://www.yankodesign.com/2013/01/17/the-power-of-a-family-huddle/>

Source: yankodesign.com

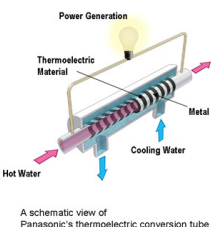


Self-Sufficient Floating Buildings

Using the resources, thin flexible shells, and self-service, the pavilion floating in the old harbor of Rotterdam is made up of three connected domes. Made of ETFE foil, which is 100 times lighter than glass, the floating structure is lightweight yet strong. The domes are heated and cooled by solar energy and surface water, and are designed so that energy is only used in areas where it is needed at that moment. Toilet water is also purified in the pavilion and then discarded into the surface water.

http://www.rotterdamclimateinitiative.nl/en/100_climate_proof/projects/floating_pavilion?portfolio_id=19

Source: Inhabitat



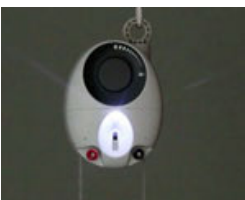
Hot Water to Electricity

Illustration to the **use of resources**. A lot of energy is wasted when hot water or other hot fluids as well as steam flow through the pipes. Panasonic proposed to make thermoelectric pipes to directly convert heat to electricity.

Video: <http://youtu.be/PuNZh1VgxZk>

Reference: <http://panasonic.co.jp/corp/news/official.data/data.dir/en110630-4/en110630-4.html>

Source: Panasonic



Gravity Generates Light

And again about the **use of resources**. Low-cost self-contained lamps are becoming more widely available, but batteries are the weak link, because they are expensive and deteriorate through use and over time. This new invention uses gravity to create energy to power the lamp. A weight is lifted and then released. It creates enough energy to lit the lamp within 30 minutes. In addition, the device is completely green.

Reference: <http://www.indiegogo.com/projects/282006>

Source: Indiegogo.com

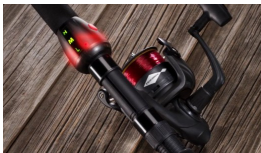


“Spoutnik” Microwave Oven

A principle of **Spheroidality** can be observed in a new design of a microwave oven which is made in shape of a spherical dome. The cover of the oven is **transparent** what makes it possible to monitor cooking. In addition, the cover **changes its colour** from red to blue when the meals are ready.

Reference: <http://www.gizmag.com/spoutnik-domed-microwave-oven/25340/>

Source: Gizmag



Automating a Fishing Rod

Example of **Decreasing Human Involvement**. A new fishing rod has a computerized system to trigger alarm when fish bites.

Video: <http://vimeo.com/56122393>

Reference: <http://www.gizmag.com/poletap-smartrod-computerized-fishing-rod/25596/>

Source: gizmag.com



Electrolysis to Prevent Biofouling

Example of **Basic Principle Replacement**. New coating which uses electrolysis can replace toxic coatings on hulls of ships which are used to prevent biological growth on the surface of the hulls which promotes corrosion. Large area electrodes are painted on an isolating primer coating and powered by photovoltaic elements.

Reference: <http://www.fraunhofer.de/en/press/research-news/2012/december/keeping-ship-hulls-free-of-marine-organisms.html>

Source: Fraunhofer

PUBLIC TRAINING AND CERTIFICATION FROM ICG T&C IN 2013

In Winter-Spring 2013 ICG T&C organizes the following public courses (all courses are conducted in English, international audience is welcome):

5-day Advanced TRIZ and Systematic Innovation in Technology and Engineering

For familiar with TRIZ basics: Training and Certification

Intensive 5-day learning and practice with Trends of Technology Evolution, Function Analysis, 76 Inventive Standards, RCA+, ARIZ. If you do not familiar with TRIZ basics, we can help you to gain the needed knowledge before the course.

<http://www.xtriz.com/Training/technologyAdvanced.htm>

February 4-8, 2013

Utrecht, The Netherlands

One-Day Systematic Creative Imagination Development

Training and certification

Our creative imagination is essential for generating new ideas. During this course a number of techniques and tools for systematic development of creative imagination are explained and practiced.

http://www.triz-shop.com/product_info.php?products_id=53&language=en

March 22, 2013

Sulzbach-Rosenberg,
Germany

3-day TRIZ and Systematic Innovation for Business and

April 3-5, 2013

Management

Utrecht, The Netherlands

For starters or familiar with the TRIZ basics: Training and certification

This course focuses on understanding how the basic principles of TRIZ and Systematic Innovation can be used in business and management, and explains techniques which can be put to everyday practice for finding innovative ways to solve business and management problems.

<http://www.xtriz.com/Training/businessExtended.htm>

Two-Week "TRIZ Fundamentals" in Technology and Engineering**July 8-19, 2013****For starters or familiar with TRIZ: Training and certification**

Enschede, The Netherlands

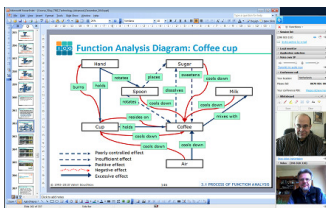
This intensive two-week (80 hours) "full immersion" course is conducted in cooperation with the University of Twente in Enschede. The course explains fundamental principles and philosophy of TRIZ, various TRIZ tools and techniques and involves a lot of practice. The course helps with obtaining a deep understanding of TRIZ and learn how to use its tools in real life.

Although the course targets at M.Sc and B.Sc students, professional audience is also welcome and each year we have participants from different industries and different countries.

<http://www.xtriz.com/summercourse.htm>

More details about each course and registration can be found at <http://www.xtriz.com/Training/>. For further details, please contact us at training@xtriz.com

ONLINE TRIZ AND SYSTEMATIC INNOVATION TRAINING



Since 2010, we have been successfully running online training. This training involves both pre-recorded video lectures and follow-up online face-to-face communication to answer questions, have discussions and evaluate assignments. During online training the participants can work on their own problems and challenges.

Upon completing the online training successfully, the participants are awarded with ICG T&C training certificates.

We offer both "packaged" courses as well as courses on specific TRIZ and xTRIZ tools. Also, custom-tailored courses are possible. More information and the list of courses are available at http://www.xtriz.com/Training/online_training.htm

- [Newsletter Archive](#)
- [4.5 Hour Video Introduction to TRIZ](#)
- [Top 12 TRIZ Questions for beginners: Part 1](#)
- [Top 12 TRIZ Questions for beginners: Part 2](#)
- Other publications from ICG T&C: <http://www.xtriz.com/publications.htm>

xTRIZ LinkedIn Group

The LinkedIn xTRIZ group is available at:

<http://www.linkedin.com/groups?gid=4485435>

To join, please request a membership.

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