TRIZ Forum: From the Editor

# Global Network of Public Web Sites in TRIZ: A Proposal for Building Global TRIZ Community

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TRIZ Home Page in Japan

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# From the Editor (Toru Nakagawa, May 25, 2008)

This a vision and proposal for building a Global TRIZ Community effectively, newly written on the basis of my recent review of TRIZ Links in the World and also the lessons learnt from this "TRIZ Home Page in Japan" (See: The Role of "TRIZ Home Page in Japan": Towards a 'Public Site, by Toru Nakagawa, Nov. 1, 2007 Engl.). My proposal is:

- Let's build many Public Web sites in different TRIZ communities,
- and set both outward-looking and inward-looking windows on them for overcoming the language
- and form an autonomous global network of them in the Internet.

Thus the vision is in short:

A Global TRIZ Community intermediated by many "TRIZ Home Page in XXXXX".

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# Global Network of Public Web Sites in TRIZ: A Proposal for Building Global TRIZ Community

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#### ABSTRACT

I have recently rebuilt my Web pages of TRIZ Links in Japan and in the World, containing 100 selected sites in Japan and 120 selected sites in the World. Struggling with the limitation caused by the language barriers, I browsed various pages of all those sites and annotated them in the lists of TRIZ Links. During this survey work I got acquainted with a lot of new sites or new pages with rich and unique information related to TRIZ, and at the same time found various shortage of desirable information in TRIZ at the country level as well as at the global level. These findings urge me to write a proposal here, for improving the TRIZ information situations in countries and in the World for the purpose of wider penetration and better understanding and usage of TRIZ.

My proposal has three main points:

- (1) The first point is the suggestion/recommendation of building and activating 'Public Web sites in TRIZ' in various countries or language regions. Here 'Public' is meant in contrast to 'Private', either of commercial organizations or individuals, on one hand and in contrast to 'Official', of some organizations, on the other hand. A Pubic Web site is typically edited by an Editor or a small Board of Editors on a voluntary basis, accepting contributions by many other people.
- (2) The second point is the suggestion/recommendation of operating such Public Web sites as the bi-directional windows for the local readers to see the outside world and for the global readers to see the local world. For this purpose, it is often necessary to make language translations in both inward and outward directions.
- (3) The third point is the vision that, by using English as the defact common language at the global level, we can smoothly form a global network of Public Web sites having bidirectional language windows. Such a network forms an autonomous, volunteer-based public community in TRIZ in the global scale. Any work originally achieved by some group using language A can be presented in the A's Public site both in the language A and in the

common language (English), and any group in language Z can find the work significant and introduce it in their country by posting the Z-language translation of it. Smooth communication of information can be achieved without any regulation or control at the global level. This certainly forms a solid base of sound understanding, penetration, usage, and further development of TRIZ. And it forms a good example of global collaboration for any other subject.

Examples of Public Web sites in this sense have been built by the "TRIZ Journal" and more typically by the "TRIZ Home Page in Japan". Since there are many other sites, especially 'Official sites' of various not-for-profit organizations, which can provide good bases of the 'Public sites' in the present sense, we will be able to establish such a global network of bidirectional-window Public Web sites in the near future.

# 1. Findings of the Current Information Situations in TRIZ

## 1.1 Information Situations in TRIZ in Japan

For 2 weeks from late March to mid April this year (2008), I was working to survey various TRIZ sites and pages in Japan. The results were uploaded on Apr. 13 in the form of Selected and Extended versions of TRIZ Links in Japan in my Web site "TRIZ Home Page in Japan".

In my Japanese page, I listed and annotated 100 TRIZ sites (or pages). They contain:

- 11 primary TRIZ Web sites providing original information in TRIZ;
- 21 TRIZ consultant/vendor/dealer sites;
- 16 sites of societies and journals in the TRIZ related areas;
- 26 universities and not-for-profit organizations interested in or supporting TRIZ;
- 6 firms providing seminar and training in TRIZ (among many other fields of subject);
- 8 sites of book searches and Wiki dictionaries;
- 10 personal Web sites interested in TRIZ; and
- 2 more sites in relevant areas.

For listing up these sites, I made keyword searches (of the term 'TRIZ') with Google to obtain 300 links, and with several other search engines, resulted just in confirming the Google search. I browsed the sites pages after pages, and also followed links to find any relevant sites. Thus these 100 sites (or pages) give us a good overall perspective of the current state of Web information on TRIZ.

For your information I will summarize some characteristic features of TRIZ in Japan.

- Since 1996 TRIZ has been introduced actively in Japan, mostly in manufacturing industries.
- The main players of promotion were Nikkei BP (a publisher), Mitsubishi Research Institute (with Invention Machine Inc.), and SANNO Institute of Management (with Ideation International).
- "TRIZ Home Page in Japan" (Editor Toru Nakagawa) started in 1998 and has been working as an information hub in TRIZ in Japan.
- 'Cooperative Board of TRIZ Promoters and Users in Japan' (or 'Japan TRIZ CB' in short) started as a voluntary organization in 2004 and it evolved into 'Japan TRIZ Society (NPO)' in the end of 2007.
- MRI organized Users Group Meetings every year in 2001-2004, with 80-100 participants; and then Japan TRIZ CB held TRIZ Symposium in Japan in 2005, 2006, and 2007 (with 200 participants).
- 10 TRIZ textbooks have been published in Japanese translation, 12 TRIZ books were written in Japanese, and 5 more books have TRIZ sections.
- 80 papers have been published/presented on TRIZ and its usage by 35 Japanese user (i.e. not promoter) organizations so far.
- Almost all TRIZ Web sites in Japan are written in Japanese. Some of them introduce papers/articles by translating from English into Japanese. Papers/articles are posted in English only in the "TRIZ Home Page in Japan" and in the Official Web site of Japan TRIZ CB.

## 1.2 Rebuilding a Page of 120 TRIZ Links in the World

For 3 more weeks from mid April to early May, I was struggling to rebuild my page of TRIZ Links in the

World. 7 years have passed since I built the page last time in 2001, having 78 sites. I did the Google search with the keyword 'TRIZ' and checked the top 300 items as the initial clews. Then I browsed all those sites one by one, and traced a large number of links shown in various TRIZ Link pages. The final results were posted in the page of 'Extended 120 TRIZ Links in the World' in my Web site.

The problem during this job was the language barriers, of course. Besides Japanese, I can read only English. I can guess the sites in Taiwan, because they use Chinese characters in the old form, but less the sites in China using new simplified form of Chinese Characters. I cannot read Korean sites at all, and Thailand sites neither. I learned German during my college days but never used it, so I can only vaguely guess the meaning of German sentences. I studied French for myself for a few years, hence I can guess the French sentences slightly. Spanish and Italian languages are similar to French, thus I can guess the meaning of such sites vaguely. In 1998-99 I learned Russian once a week, but to my pity I forgot almost all and following Cyrillic characters is a difficult job. So I can only pick some words in Russian. — Thus, in short, all the foreign languages except English are very difficult for me to understand; I am just guessing them at best. Maybe you can read many more languages. — Nevertheless, even the pages written in Russian or in Thai there are often some clews to guess the meaning, e.g. English alphabets in the file name of hyperlinks. And in better cases such sites have brief English pages to tell the nature/purpose of the sites.

Under such limitations and with much overweighing on sites having English pages, I made a page of 120 TRIZ Links in the World (plus Selected 10 in Japan). Those sites are annotated and arranged according to geometrical regions/countries. The numbers of sites listed are as follows: Note the numbers in my 2001 version is shown in the form of [<-- xx].

- (1) Japan 10 [<-- 6]
- (2) North America 35 [<-- 20]: USA 33, Canada 2
- (3) Europe (West, Central, and North Europe) 33 [<-- 29]: EU 1, UK 6, Ireland 0, Spain 2, France 5, Italy 1, Belgium 2, The Netherlands 4, Germany 5, Switzerland 1, Austria 2, Czech Republic 1, Denmark 0, Norway 0, Sweden 1, Finland 2
- (4) Russia and East Europe 18 [<-- 14]: Russia 15, Belarus 2, Ukraine 1, Romania 0, Poland 0
- (5) Mid East 6 [<-- 3]: Israel 3, Turkey 1, Iran 2
- (6) Asia (outside Japan) 19 [<-- 3]: Korea 6, China 3, Hong Kong 2, Taiwan 1, Viet Nam 1, Thailand 2, Malaysia 0, Singapore 0, India 4
- (7) Australia and Oceania 2 [<-- 1]: Australia 2, New Zealand 0
- (8) Central and South America 3 [<-- 2]: Mexico 1, Nicaragua 1, Brazil 1
- (9) Africa 0 [<-- 0]: Egypt 0, South Africa 0
- (10) Others 3 [<-- 0]: Book search 1, Wiki 2

### 1.3 Some Observations of TRIZ Information Situations in the World

I would like to summarize some observations here for making the basis of my proposal to be presented in the next sections.

In Russia (and Belarus), a lot of efforts have been made for recording the original TRIZ documents for public access. The Official G. S. Altshuller Foundation has already made a huge collection of Mr. Altshuller's documents and some instructive materials accessible in Russian, but very small portion of the documents are posted in English translation. MA TRIZ (i.e. International Association of TRIZ) has strong basis in Russia and also on Russian TRIZ experts who immigrated and working actively in US and Europe; it has the Official sites in Russian. The Official Site of TRIZ Developers Summit (with 4 Board Members and supported by MA TRIZ) tries to build up 'the Body of Knowledge in TRIZ'. OTSM-TRIZ Technology Center in Minsk is also an important site for digital documentation: over-560 articles in Russian, while about 10 in English.

There are a number of Russian Web sites operated by local groups, TRIZ firms, etc. Though most of such sites are written only in Russian, there are several new sites providing with TRIZ information in English actively, e.g. TRIZ-PROFI group and Institute of Innovative Design.

In the USA, we know that 'Altshuller Institute for TRIZ Studies' is the not-for-profit organization authorized by Mr. Altshuller himself and working actively for penetrating TRIZ in the (western) World. It has been holding TRIZ Conferences annually since 1999 (with participants 70 to 130); Proceedings of TRIZCONs were published in books and in CD-Rs but not posted in their Official Web site. A large number of TRIZ commercial firms are working for developing/selling software tools, consulting in industries, training and lecturing in industries or in public, etc. Such TRIZ firms operate their own Web

sites for advertising their tools, methodologies, services, etc. by showing the outlines of the products/services without disclosing the contents themselves.

The Web site "TRIZ Journal" plays a unique role, as you know, for openly publishing various papers/articles contributed by different authors over the World. Ellen Domb has been the Founding Co-Editor from 1996 to 2006, and is still involved in it as a member of Editorial Panel. "TRIZ Journal" is the (only) global hub site in TRIZ where many original papers/articles are posted. Many of them are invited/contributed after international TRIZ conferences and many others are contributed directly. Thus the information in this Web site is widely supposed to be new as original articles, fully described as academic/practical papers, having clear responsibility in authorship, reliable after being screened by the editor, and open for different opinions and ideas of contributors.

In Europe, various TRIZ firms and a number of university laboratories are working mostly in domestic situations more or less divided by different languages. In countries like France, Germany, Austria, and Italy, country-wide TRIZ Associations have been established. Their Web sites, however, are written in their own languages, and I cannot find so many papers/articles in these Web sites (maybe I failed because of my poor language ability). In this situation, ETRIA (European TRIZ Association) plays an active and important role. ETRIA has held 'TRIZ Future Conference (TFC)' every year since 2001, at different locations in UK, France, Germany, Italy, Austria, Belgium, and Germany; in every country TFC was organized with a joint team of academic and consulting/industrial people, which gave much impact on the promotion of TRIZ especially in the host country. Papers are written in English and presentations are also done in English. The ETRIA Web sites has all the files of papers (and lately presentation slides) for these TFCs accessible to all the ETRIA Members.

TRIZ people in universities in Europe seem to be working hard to collaborate with industries. A large portion of papers presented by TFCs are the results of collaborative work (including consulting) between universities and industries. INSA Strasburg is a center of research in TRIZ, having an Advanced Master Course in TRIZ, the only graduate course fully devoted/specialized in TRIZ in the western World. There are a number of TRIZ consulting firms, having active Website, textbook publication, publishing research/practice papers, and wide-ranged consulting practices: they include Systematic Innovation, CREAX, ICG Training & Consulting, and WOIS Institute.

**TRIZ** in Israel is unique in promoting SIT (Systematic Inventive Thinking), a much simplified version of TRIZ and developed since early 1980s. (We should note that there is a SIT community in the Netherlands.) Iran is recently active in introducing TRIZ.

In Asia, the interests in TRIZ are increasing recently. Navneet Bhushan, India, reported his survey of Google Trends of 'TRIZ', saying that most accesses to Google with the keyword 'TRIZ' come from Iran, South Korea, Taiwan, Viet Nam, India, Brazil, Japan, Mexico, Thailand, Austria, etc.

South Korea seems to be the most active country in TRIZ in the western World. Big industries in Korea, especially the Samsung Group, LG, POSCO, etc., employed a number of Russian TRIZ experts to build up the core teams of TRIZ promotion; they have trained Korean engineers as TRIZ specialists and coached them to work with engineers for solving real industrial problems. Such companies have reported a number of case study papers in international TRIZ conferences. Korean TRIZ Association was established; and it promotes, under the agreement with MA TRIZ, certification program of TRIZ experts. The Web site posts the photos of several tens of certified TRIZ Experts; I was much impressed that all of them seem young, of ages of 20s, 30s, and 40s.

Taiwan TRIZ Association is also established already. Among about 20 Board Members of the Association, more than half are professors at different universities. In December 2007, they held the Second Conference with about 140 participants. Thus TRIZ in Taiwan seems to be growing rapidly with the promotion by universities with some support from the Government. The situations in P. R. China are not known well. A department of a regional government in the north-eastern part of China has developed a nice Web site posting rich contents of TRIZ instructions, in Chinese, of course. Another site reports that Third Senior Conference of TRIZ Research was held in December 2007 in China with about 50 participants.

Other countries in Asia seem to have their own ways and history of introducing TRIZ. Viet Nam has a center of training TRIZ as a unit in its national university since 1991. Phan Dung was an early student of Mr. Altshuller. Thailand has two Web sites apparently working for public on a not-for-profit basis. TRIZ in India seems to be promoted mainly by consulting firms. Young TRIZ passionates are talking in the Internet about the possibility of organizing the First Indian TRIZ Conference.

**In Australia**, TRIZ is taught in Royal Melbourne Institute of Technology, by a TRIZ expert of Russian immigrant.

In Mexico, AMETRIZ (Mexican TRIZ Association) was recently established with the leadership of university professors. They held the 2nd Iberoamerican Technological Innovation Congress in 2007. In Brazil, Marco Aurelio de Carvalho is working to introduce TRIZ; but I am not familiar with the situations in Brazil. I would like to specially mention about 'TRIZ Nicaragua' Web site. This was built by Hugo Sanchez and was active during 2002-2003 in introducing TRIZ in its simplified versions (including SIT, USIT, and Larry Ball's method). This is a case that an individual has a possibility of guiding a large community, in this case the Spanish-speaking world, by use of a Web site. I wish this Web site be reopened in the near future after health recovery of the editor and with the support by TRIZ colleagues.

Another point we should note is the current situations of **TRIZ** in **Wikipedia**. Lately many people consult and quote Wikipedia, especially when they are non specialists in the subject Thus the influence of Wikipedia is very large. Wikipedia is envisioned as a free encyclopedia edited by many voluntary people in collaboration without having any authorized editor for each subject. The current English version of TRIZ in Wikipedia is poor in quality. It seems to be written and edited fragments by fragments, by a number of ordinary TRIZ students. It should be rebuilt and rewritten completely. But nobody has the responsibility for writing it. If a TRIZ specialist rewrite it, there are possibilities that another TRIZ specialist wants to rewrite it again, as is often seen in internet discussion forum in TRIZ. Another possibility is that TRIZ non-specialists insert a number of skeptical statements. Under these situations the current English version of TRIZ is poor in its quality.

## 1.4 Generating a Proposal for Improving the TRIZ Information Situations

Under the observations of the current situations of TRIZ in the World, I was urged by myself to write down my trials and my vision in a form of proposal to the whole TRIZ community in the World. This is based on my experiences of founding, editing, and operating the "TRIZ Home Page in Japan". I founded "TRIZ Home Page in Japan" on Nov. 1, 1998 posting my several articles together in Japanese, and then I started its English pages on Nov. 15, 1998, and demonstrated the English pages in the International TRIZ Conference held on Nov. 17-19, 1998 near Los Angeles. I wanted it to be the "Home Page", or Web's top page, or a hub site, in the field of TRIZ and in the country of Japan.

Even though I am the Editor, responsible and deciding every thing in the site, and the author of most of the articles posted here, I have been inviting and accepting many authors in Japan and over the World to contribute their papers and opinions. Even though Japan TRIZ CB decided to publish the Keynotes but no contributed papers presented at Japan TRIZ Symposium in its Official pages, "TRIZ Home Page in Japan" has the option of posting selected contributed papers with a few months of delay. I am also very pleased and honored that all people overseas gave me permissions of our translating their papers into Japanese and of posting them in my Web site. Thus step by step this site has the status of not a 'Private site' but a 'Public site'. The nature and vision of the "TRIZ Home Page in Japan" were stated in my message of "The Role of "TRIZ Home Page in Japan": Towards a 'Public Site' " on the ninth anniversary day, Nov. 2007.

My approach seems to be supported by many people in different countries. When I reviewed TRIZ Link pages of various TRIZ Web sites in the World, I could often find their links to my Web site in English.

The present proposal is actually only one step ahead. In short, my proposal is:

- Let's build many Public Web sites in different TRIZ communities
- and set both outward-looking and inward-looking windows on them for overcoming the language barriers.
- and form an autonomous global network of them in the Internet.

So to speak, this is:

A Global TRIZ Community intermediated by many "TRIZ Home Page in XXXXX".

I will explain my vision some more in the following sections.

# 2. Public Web site in TRIZ in each TRIZ community

The first part of my proposal is to build a Public Web site in TRIZ in each TRIZ community in the World, which means to build a (large) number of Public Web sites in TRIZ in the whole World.

#### 2.1 The Role and Nature of the Public Web site

The Public Web site to be built in each TRIZ community is expected to play the following roles.

• It has the role of an information hub in TRIZ in the community.

Many people who want some reliable information in relation to TRIZ will/can come to this site. It is in the position of the center (or the hub in a wheel) of information exchange in the community, in a logical sense. People can get information from here and people also can send information to many other people in the community, e.g. by posting papers/announcements/ opinions etc.

• It has the role of a repository of information in TRIZ in the community.

Many important documents in TRIZ are stored here for avoiding from getting lost. Various documents are easily become inaccessible if they are managed only by individual persons or organizations. Thus important documents generated or kept by different individuals and organization should be able to be stored here.

• It has the role of filters in the quality.

People want to have reliable and high quality information. Thus it is expected that the information provided here has passed some filtering in reliability and in quality. The reliability and quality should be made high by the author(s) for the first place. This means every article must have clear statement of authorship and the date of writing/posting. It is expected also that the information is evaluated to some extent by someone, usually the Editor(s). Through these evaluation, the information provided here is supposed to be recommended in some sense.

• The filtering process should be fair and match the public benefits of the community.

The filtering process should be done in a fair manner without depending much on the private benefits or belief of the person or the organization in charge of the editing. The filtering criteria should match the benefits of the community. Here I am writing in a delicate manner, because the judgment of a paper, for instance, may vary by the editor(s), because the editor(s) have their own beliefs and opinions. Even under such situations, the editor(s) should make the filtering in a fair manner.

• The range of the subject in TRIZ and the spread of the community can be vague and open ended.

It is not necessary to fix the range of the field of TRIZ (i.e., either the subject included in TRIZ or not) and the range of people, geometry, etc. of the TRIZ community. It is assumed that there are other (Public) Web sites in the subjects close by or even overlapping with the present Public Web site. In the world in Internet, the community of readers/writers of a site can not and should not be restricted in any category of people, geometry, etc. People can freely choose their favorite sites and communities.

• The information should be made accessible smoothly, quickly, and widely.

One of the most important merits of the Web sites over papers, journals, books, etc. is its speed for making the information accessible. The time needed for preparing and posting can be made short with the assistance of software tools and the internet communications. Thus the delay of posting mainly stems from the evaluation or reviewing process to keep the quality. Official organizations of journals and conferences, etc. often have the system of peer reviewing and Editorial Board meeting, which usually cause three months or even one year delay. The Public Web sites are desirable to work much more quickly. The way of solving this problem is the quick and not-necessarily strict evaluation by the editor(s) and the

afterward correction by the comments and discussions by the readers.

So far I have been talking about the roles of the Public Web sites. All these can be envisioned and tried to perform by the Editor(s) or Owner(s) of the sites. However, people have the freedom to visit or not to any site for obtaining information, and have the freedom to contribute or not to any site for posting their own information (i.e. papers, articles, etc.). Thus, even if an owner of a site tried hard to make his/her site a Public Web site in the above sense, there is a possibility that no or few other people contribute their articles and not many people visit the site. In such a case the site has failed in playing the role of a Public Web site and in becoming a Public Web site, in the present sense. Thus, we can regard a Web site as a 'Public Web site' only after the results are apparent. There can be multiple of Public Web sites in a community (of quite different sizes) and they should compete and cooperate with each other.

## 2.2 Difference from Private Web sites (Personal Web sites, Company-owned Web sites, etc.)

There are often nice Web sites well designed, rich in contents, and updated actively by a person who owns and edits the site. They are particularly nice if the owner has his/her own philosophy and own way of thinking. But such sites usually do not accept the articles written by other people, except correspondences to the owner. The 'Public Web sites' in the present proposal suggest to build a site having many authors. It intends to be more effective than to have multiple personal Web sites of such authors. What can be done, especially originally written, by a person is much limited. We would like to have better and widerranged articles by the collaboration of many authors.

There are also many company-owned Web sites in the field of TRIZ. Usually, such companies are commercial entities, e.g. TRIZ tool vendors/dealers, TRIZ consulting firms, TRIZ training/seminar providers, etc. Each company wants to advertise their own products and services. Thus the products, such as software tools and textbooks, are briefly introduced to attract the customers but the whole body of them is not shown freely, because the companies are selling them. TRIZ consulting firms advertise that they have developed new methods which are more effective than traditional ones, but the actual ways of the new methods are not described much in the Web sites. Such Web sites usually provide only the information generated by themselves or related to themselves. In this sense, company-owned Web sites are mostly private in nature.

Sometimes, such companies provide nice and rich contents of information after special editorial efforts, e.g., extensive collection of links, selection of novel patent disclosures, introductory articles written by the company staff or invited authors, papers presented by the staff at academic conferences, etc. They are meant as services to readers/customers for attracting their attention. These services may be provided as well or even better on the 'Public Web sites' in the present proposal. Namely, such companies can contribute these services to the Public Web sites with their authorship explicitly written.

#### 2.3 Why not 'Official Web sites'?

There are a number of not-for-profit organizations working in relation to TRIZ. Some of them in the global level, e.g. MA TRIZ, AI, ETRIA, some others in the national level, and some more with different fields of subjects or different groups of people. In a first glance, we think we should take part in the activities of these organizations and make their 'Official Web sites' more active. So, why not?

You should just look around various Official Web sites of academic or not-for-profit Official organizations in your country, and over the world. They are good in holding various kinds of conferences and in publishing (or posting) journals and conference proceedings. However, such papers/articles are published only after heavy-loaded lengthy process of reviewing and authorization. We may say that such processes of authorization guarantee a (high) level of quality of such papers/articles. However, we should note that the quality of the paper/article is created by the author when he/she writes it, and the reviewing process is essentially a threshold filtering with only slight possibilities of improvement with the sacrifice of a long overhead time.

'Official Web sites' are usually under the restriction in posting articles containing some evaluating statements. To express some form of evaluation in an article, the 'Official Web site' needs to obtain some authorizing decision (by the organization) or preset clear rule. For example, consider to make a page of Selected (TRIZ) Links in a country or in the World. How can we select them, i.e. pick up one and drop another? In which order should we arrange the selected ones, i.e. which one is first, which other is next, and so on. Can we annotate the sites, i.e. saying excellent/useful on some and not others? If you argue on these points in any organization, the arguments would turn into a battle. Thus finally you would set up the ordinary style of Selected Links: Either very few or else rather many links are listed in the alphabetic

order (or else some mechanical order) without annotation.

The 'Public Web sites' in the present proposal are expected to make more meaningful pages of, say, Selected Links. The page should have a suitable number of links arranged in a meaningful categorization and ordering with some annotations, expressing strengths and weakness; all these must be done by the editor's (or author's) decision under his/her own responsibility. According to such decisions in the Link page for example, the site, and hence the editor, is evaluated by the contributors and readers.

#### 2.4 How can we build a 'Public Web site' in this first stage?

Typically, a 'Pubic Web site' in this stage can be and should be built around an Editor. The Editor is the person who makes the philosophy and policy of this site and makes decisions on all important issues during the operation of the site. Having a Web master is helpful, who designs the actual pages and does the practical work of transforming the author's manuscripts into the posted pages. Having a core group of authors is also a good idea. It is nice that such core members together with the Editor write interesting and important articles from different angles from time to time. Such a core group of people can also serve as the advisors and monitors of the site. The scope of the site and the range of the community may be decided naturally by the Editor and the colleagues.

Nowadays owning a certain space in a Web server is not so expensive. The size of the Web can be kept small; e.g. my Site "TRIZ Home Page in Japan" occupies only 244 MB for all the Japanese and English pages accumulated for these nearly 10 years. My University provides this space free for me, as a section for all faculty members in a part of the University's Web site. Technical support by the University staff is also helpful.

Thus the essential point in building a 'Public Web site' in this stage is the voluntary devotion of the Editor to build a new Public Web site and to take responsibility for everything in the operation of the site. Colleagues who play the roles of a Web master, core group of authors, technical support, etc. are very helpful.

# 3. Public Web site in TRIZ having Outward- and Inward-looking Windows

#### 3.1 Why the Outward-looking Windows Necessary?

As I wrote in Section 1.2-1.4, we belong to a community speaking a language, and there are many other communities in the World, where people are actively working in the same field of subject but are using different languages. And especially since TRIZ was developed in the former USSR, many of us need to look outward of our naturally-made language barriers. A typical way of helping people look outward in the World is to translate the books, papers, articles, etc. into our own language and to publish them or post them in the Web site. Thus the Outward-looking Windows of our Web sites mean the papers/articles generated in the outer world (or concerning to the outer world) and made readable, e.g. translated, in our own language. This kind of needs is clear for all people speaking other than English. Maybe, English speaking people, especially US people need to understand more the importance of this Outward-looking windows in their community; for example translation of Russian TRIZ texts into English by the initiative of US people.

## 3.2 Why the Inward-looking Windows Desirable/Necessary?

The activities of a community are usually best performed in their own language. Thus communications, articles, papers, etc. posted in the Web sites (including private, official, and our 'Public' ones) are naturally written in the community's own language. However active such activities and Web sites are, they are closed within the barriers naturally built by language differences. Thus excellent methods and case studies established in the community and even posted in the 'Public Web sites' are in fact still not open for many other people who can not read the community's language. Hence it should be a good idea to post such articles and papers after translating them into a language (e.g. English) understood by much more people in the global level. This is an action by the community people to disclose or present their materials to many more people in the world.

But when you see various Web sites over the world, you will find very few of them actually provide such services. Why? The reasons are clear: posting a work after translating into a foreign language (e.g.

English) is a hard extra job, which mostly becomes the benefits of foreign people and pay back to the author just a small fame and priority time-mark. Translating or writing articles in a foreign language is much harder than translating from foreign language into our mother tongues. Not many people, even able engineers, have enough talent and time to do such a work. Thus it is rather rare cases that articles are posted in a foreign language (e.g. English) in any Web site.

Such articles posted in a foreign language (e.g. English) are the means of presenting and disclosing our own work, namely they are show cases or show-windows for the authors or the Web site owners. On the other hand many people outside the community, or people living in the outer different communities watch and read such articles to understand the works and activities of the community. Thus we may say that such articles posted in the foreign languages (e.g. in English) play the role of Inward-looking Windows, i.e. for outer living people to look inward to the works and activities inside the language barriers of the (Public) Web site. Hence the Inward-looking Windows (from outside) are of primary importance for the people living outside.

Nevertheless, we Japanese learned the lessons of importance of making Inward-looking windows through many bitter experiences. For example, in the field of creative problem solving, Japan has established several unique methodologies for these 60 years. Equivalent Transformal (ET) Thinking by Kikuya Ichikawa, the KJ method by Jiro Kawakita, and the NM method by Masakazu Nakayama, are the examples. Even though they were/are widely used in Japan, they are not known well outside Japan due to much less chances of (English) presentations. This means that less chances of presenting/showing our own work give us much lower recognition and evaluation in the world than it should be. This is sad, but inevitable as a matter of fact. In this sense, building and actively maintaining the Inward-looking Windows in our 'Public Web site' is not only useful for the people living outside but also meaningful for ourselves.

Since the editors/authors of our 'Public Web site' are in the best positions to know the works and activities inside the community, it should be nice for them to present their works in the foreign language (e.g. English) which is understood widely in the global scale.

## 3.3 How can we build a 'Public Web site' in this second stage?

To build a 'Public Web site' in this stage, we need to go two steps further, first to build the Outward-Looking Windows and then to build the Inward-looking Windows.

In my experiences, to build 'Outward-looking Windows' is relatively easy. Many people who are interested in studying TRIZ seriously want to study good textbooks and papers written in foreign languages (e.g. English), thus they often volunteer to do the translation work and to post the translated versions in our Public Web site. Thus the Editor should select/evaluate what materials are worthy of translation, try to keep the quality of translation high, and post the translation works by clearly acknowledging the translators.

To build 'Inward-looking Windows' is much more difficult. It is necessary to get person(s) who understand the contents of the (TRIZ) works well, have the language capability at some professional level, and have time and passion for the translation work. There may be two cases: In the first case, the Editor/authors translate their own works on a voluntary basis; while in the second case, the 'Public Web site' should have a fund to hire such professional staff. Even in the second case, the Editor need to play an important role in the operation of the Inward-looking Windows.

# 4. An Autonomous Global Network of Many 'Public Web sites' in TRIZ

On the basis of a (large) number of 'Public Web sites' built in various countries and TRIZ communities, a 'Global Network of Public Web sites' in the field of TRIZ will be smoothly built by choosing a common language at the global level and will grow autonomously by the cooperation of the 'Public Web sites'

#### 4.1 Choice of a common language

Choosing a common language for the purpose of global communication among the 'Public Web sites' is desirable. It is clear that by choosing one language for this purpose, the overall labor of all the sites in the World can be made most effective and efficient. As the defact standard, it may be reasonable to choose

English for our common language for this purpose. When a 'Public Web site' builds its 'Inward-looking Windows', it posts their articles in English, the chosen common language.

## 4.2 Visions of Many 'Public Web sites' in TRIZ

Now we can have a vision that 'Public Web sites' in TRIZ are established and operated in various countries and in various TRIZ communities. Each 'Public Web site' serves for its own community (e.g., a country, a region of the same language, a school of TRIZ methodology, etc.) as the hub site of communications, presentations, discussions, etc. It helps people understand and apply TRIZ, and hence it backs up the promotion and further development of TRIZ in each community. Each 'Public Web site' introduces selected articles in the World by translating into their own language (i.e. the role of 'Outward-looking Window' for their own people), and also posts selected articles written by their people after translating them into the common global language, i.e. English (i.e. the role of 'Inward-looking Windows' for the people outside the community).

I would like to mention some of the typical cases of special interest in the field of TRIZ.

- Russia, or widely the former USSR countries, occupy the special position as the motherland of TRIZ. The Official G. S. Altshuller Foundation is serving for public as a particular type of site, probably half 'Official' and half 'Public' nature in the sense of the present proposal. Since there seem to exist many schools of TRIZ in these countries, it may be natural to have several 'Public Web sites' on the basis of Russian language. An important role for them is to present classical works, and modern works as well, in TRIZ readable in English.
- It should be noted that principal European countries, especially UK, Germany, France, and Italy, are expected to have such 'Public Web sites' serving as the hub and having the Windows in the both directions.
- Asian countries, such as Korea, China, India, Thailand, etc., will also be benefited if they have their own 'Public Web sites'.
- Special importance is to have 'Public Web sites' in Spanish, in Portuguese, in Arabic, etc. Even a small Web site can play a big role in guiding people in a number of countries speaking the same language.
- USA (and UK and several more countries), speaking in English, is in an advantageous position. Many other countries have to make much efforts for translating information between the global common language (i.e. English) and their own language. Thus it is much desirable that USA also make efforts to translating various works in different languages into English, e.g. translating Russian texts written by Altshuller into English.

## 4.3 Growth of Global Network of Many 'Public Web sites' in TRIZ

Mutual networks of the above-described 'Public Web sites' can smoothly work together in the modern technology of Internet. Each 'Public Web site' does the best primarily for their own community; serving as a hub and providing the bi-directional Windows are meant for their own community in the first place. Each 'Public Web site' helps their people look Outwards and present their work Outwards, then at the same time helps the people around the World look Inwards into the community. Thus all these sites serve for the people in the World in a natural manner without making extra efforts. The efforts made for their own people play positive roles in the global community in TRIZ.

This global networking can be done without any global controller or decision maker. Any new 'Pulblic Web site' (or other Private and Official sites) can join to the global TRIZ network without any particular formality. If the new site gets familiar in the global TRIZ community, then the links from various sites to the new one will be made gradually. In this manner, 'Public Web sites' which are active and rich receive increased attentions and accesses from other Web sites or people in the World. Thus the 'Global Network of Many Public Web sites' in TRIZ grow naturally and autonomously. This behavior also helps filter out any poor/unpopular Web site gradually from the network..

We are talking about the Public Web sites in the field of TRIZ so far. However as we noticed in 2.4, we do not need to restrict the field of subjects in different Public Web sites. There can be sites having either narrower or wider ranges of interests and also nearby, overlapping, or related ranges of subjects. Such differences and divergence do not affect the merits of our Global network of Public Web sites in TRIZ. We rather say there should exist such Global networks of Public (or Official/Private) Web sites in widely different fields of subject. The present proposal suggests a prototype of such Global networks of Public Web sites in many different fields, collaborating all together.

#### 5. Discussions

Before concluding my proposal, I would like to answer again to the question 'Why not the network of Official TRIZ Associations?'. The main reasoning is that any Official organization tends to distinguish things (including people) 'Officially approved' against many others. We learned in TRIZ and in many other innovation studies that innovations are very often brought in by outsiders. Thus the networks of Official Associations (in TRIZ or in any other field) are under some contradictory situations for promoting TRIZ either in its orthodox form or in its new/innovative forms. The current vision of 'Global Network of Public Web sites' allows flexible and dynamic growth also in this sense.

'Isn't it difficult to implement such a big vision?'. Of course not so easy, if we see the final goal. But we can start it small at first. Just to start a small Web site declaring it not a Private but Public Web site. The Editor should try to write articles for him/herself and to collect good articles written by other people. The Editor must be fair in handling various papers and articles written by different authors. Once the site posts several interesting and useful articles written by a few different people, it starts to grow naturally.

The energy of a 'Public Web site' is pumped in by the Editor and some supporting members. There can be various cases of obtaining an Editor. A voluntary person can serve the Editor as a devotion using his/her free time; people in academia, in governmental laboratories, in industries, in consulting firms, just after retirement from employed job, etc. You see many people open their Private Web sites and Blog sites; thus opening a Public Web site is just a step further.

We can also find a number of companies provide very useful general information in their Web sites. Such companies demonstrate the information partly for the purpose of advertisement and often for the purpose of public benefits. The sense of this public benefits is close to opening a Public Web site. Thus the company, e.g. a TRIZ consulting firm, can support a Public Web site by providing such useful general information (by copying) and by contributing their own works as articles (but not advertisements). It may be possible for a Public Web site to post articles written by TRIZ consultants and dealers, etc., by carefully discriminating advertisements and facts-based articles, just done in many conferences. Or else another choice is to post advertising articles with a clear mark of advertisement and a banner, and get some financial support.

One more possibility of establishing a Public Web site is for an Official organization to assign an Editor and to give him/her a free hand of editing. Providing supporting staff, e.g. a Web master and a few translators, equipments, and financial support may be very useful, as far as the organization does not try to control the contents of the Web site. In this sense, it is a good and reasonable choice for the Editor of the Public Web site to obtain some governmental or academic funds for running the site.

In these various ways we can start 'Public Web sites' in many countries and in many TRIZ communities. Once you start walking you will find a number of people coming to help you run the Public Web site. Then your Public Web site will be recognized and accepted gradually and smoothly as a new member of our Global Network of Public Web sites in TRIZ.

## 6. Conclusion

Thus my propaosal is:

- Let's build many Public Web sites in different TRIZ communities,
- and set both outward-looking and inward-looking windows on them for overcoming the language barriers
- and form an autonomous global network of them in the Internet.

These efforts will realize our vision of:

A Global TRIZ Community intermediated by many Public Web sites for different TRIZ communities.

# Global Network of Public Web Sites in TRIZ: A Proposal for Building Global TRIZ Community (Toru Nakaga...

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