

TRIZCON2020 Presentation
Altshuller Institute for TRIZ Studies
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World Catalogs of TRIZ Sites and Around-TRIZ Sites **Built by the Voluntary WTSP Project**

- | | |
|------------------------|---|
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[3] World Catalogs of TRIZ Sites and Around-TRIZ Sites

System of World WTSP Catalogs, World TRIZ Sites (© 23 sites), World Around-TRIZ Sites (© 33), Structure (User's view; Developer's view), Strong points in structure design, Categorization with Roles of site

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User's evaluation, 3 Basic requirements from users, Site description (Standard form), Optional closer introduction of site, Some more final steps, Let's work Together ! Connected !!

[1] Introduction

[1a] Background Situations around TRIZ

- A lot of activities and knowledge accumulation of TRIZ
- Slowly decreasing interests in TRIZ in the world
- Internet Searches for TRIZ give messy/noisy information
- Many TRIZ-related Websites, working separately and competing

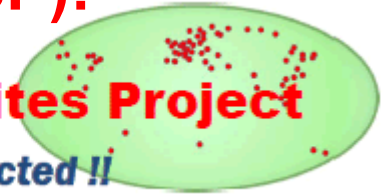


[1b] The World TRIZ-related Sites Project (WTSP):

Its Aims

World TRIZ Sites Project

Together ! Connected !!



- **To build Catalogs of TRIZ-related Sites**
 - **of each country** (in their own language, then in English) and
 - **of the whole world** (in English, then in many languages)
 - with appropriate (brief but close) **introduction of individual sites**
 - with **appropriate selection** of (useful and important) sites
 - **for various people** (unfamiliar, beginners, users, and experts in TRIZ)
 - in the field of **TRIZ and relevant methodologies**
 - as **reliable sources of information** (on theories, applications, activities)
- **To keep the Catalogs up-to-date**
 - accepting new and revised information regularly
 - revising all the Catalogs every two years
- **For promoting TRIZ and relevant methodologies further in the world**
- **By voluntary collaboration of many TRIZ colleagues in the world**

**Bottom-up
Strategy**

[2] Process of Building the World WTSP Catalogs

[2a] Pilot project in Japan (Toru Nakagawa, Apr. 2018)

(1) Selected the Search Engine and its options:

Yahoo!.Japan is selected, with the options of
Keyword = 'TRIZ', Location = 'Japan', Language = 'Japanese, English',
Displaying only one main page of each site + URL for site internal search.

(2) Visited 400 sites one by one and wrote introductions to them:

400 Sites were hit. Visiting them one by one, 70 sites were found significant.
Reading main articles, site's structure, contents, nature, quality, etc. were found.
Introductions of individual sites were written in 3-10 lines in a free format.

(3) Added relevant sites around TRIZ, using background knowledge

20 sites of significant importance were added, resulting in 92 sites in total.

(4) Japan WTSP Catalog of 92 TRIZ-related sites was compiled in Japanese

Classifying them with types (or roles) of the sites, and arranged in an appropriate order.
2/3 of the sites are found new since the annotated list in 2008.

(5) Japan WTSP Catalog (in English) was posted publicly. (Apr. 2018)

92 sites in total, including 24 Selected sites.

(6) Revised into "World WTSP Catalog (Japan Part)" (Jul. 2019)

Re-evaluates with World WTSP Criteria: ◎ 1 site, ○ 8 sites, □ 17 sites.:

Japan TRIZ Sites

- ◎ **TRIZ Home Page in Japan (Toru Nakagawa)**
- **Japan TRIZ Society (NPO)**
- **IDEA Corp. (Mamoru Zenko)**
- **MOST LLC (Kazuya Yamaguchi)**
- **Ideation Japan Ltd. (Teruyuki Kamimura)**
- **TRIZ Study (Shinsuke Kurosawa)**
- **Monodukuri.com (Osamu Kumasaka)**
- (Former) Japan TRIZ CB
- Cybernet System Co., Ltd.
- Pro-Engineers (Shigeru Kasuya)
- Idea Plant (Rikie Ishii)
- MEMODAS (Kimihiro Hasegawa)

Japan Around-TRIZ Sites

- **Idea Marathon Institute (Takeo Higuchi)**
- J-STAGE (JST)
- JST (Japan Science and Technology Agency)
- NEDO (New Energy and Industrial Technology Development Organization)
- Japan Creativity Society
- JUSE (Union of Japanese Scientists & Engineers)
- JSQC (Japanese Society for Quality Control)
- SJVE (Society of Japan Value Engineering)
- JIII (Japan Institute of Invention and Innovation)
- JAIST (Japan Advanced Institute of Science & Tech.)
- i.school, The University of Tokyo
- Keio SDM, Keio University Graduate School
- Daiichi Kousha (Akihiro Katahira)
- Netman (Ken-ichi Nagaya)

[2c] Practice Guide for Building Country WTSP Catalogs

(1) Any person may voluntarily join WTSP as a member.

We should get as many voluntary members as possible.
In each country, we should form a Team having a coordinator.

**Bottom-up
Strategy**

(2) List up Web sites related to TRIZ in each country.

First we should just list up known and recommendable TRIZ-related sites.
Show the list openly to the Team members and others for adding any sites.
Carry out internet surveys to pick up some more sites not known widely.

(3) Describe the basic information and brief introduction of each site.

(a) For the sites picked up by Internet surveys, a WTSP member describes the site by actually visiting it.

Starting at the page shown in the survey, visit its top page, 'About us' page, and some other main pages (quickly).

Internet search inside the site is often very useful.

You may write in a relaxed format any items you understand (excerpts may be helpful).

Depending on your tentative evaluation, you may describe the site closely step by step.

(b) Request the site owners to fill in the standard description form.

The Form (one page in A4) with an example will be shown later in a slide.

Writing a good introduction is difficult for visitors but easy for the site owner.

Site owners may be proud of writing additional closer introduction in a free format in 2-5 (or more) pages in A4. (See slides [4c], [4d])

[2d] Evaluation of Sites

Internet surveys easily output hundreds of sites with mixed quality. We should evaluate every site even tentatively and select good ones for our Catalogs. Evaluation will be refined later by public reviews. We use the following symbol marks with criteria.

◎ **Most important (about top 30) in World Catalogs**

○ **Important (about top 100) in World Catalogs**

□ **Worthy in World Catalogs,**

△ **Worthy in Country Catalogs,**

— **Insignificant/irrelevant.**

Criteria: **Quality** (reliable, correct, novel, original, comprehensive, up-to-date, ...)

Usefulness (resourceful, reference, handy, practical, ...)

Attractiveness (interesting, easy-to-understand, illustrative, ...)

Accessibility (open access, free/low charge, used by many, ...)

Scope (scope of the theme/field, scope of activities, ...)

[2e] Preparing Manuscripts of WTSP Catalogs

Manuscripts to be prepared by WTSP Teams

(b) Table of sites (.xlsx)
Basic data for indexing

(a) Descriptions of sites (.docx)



Convert into HTML

Country WTSP Catalog

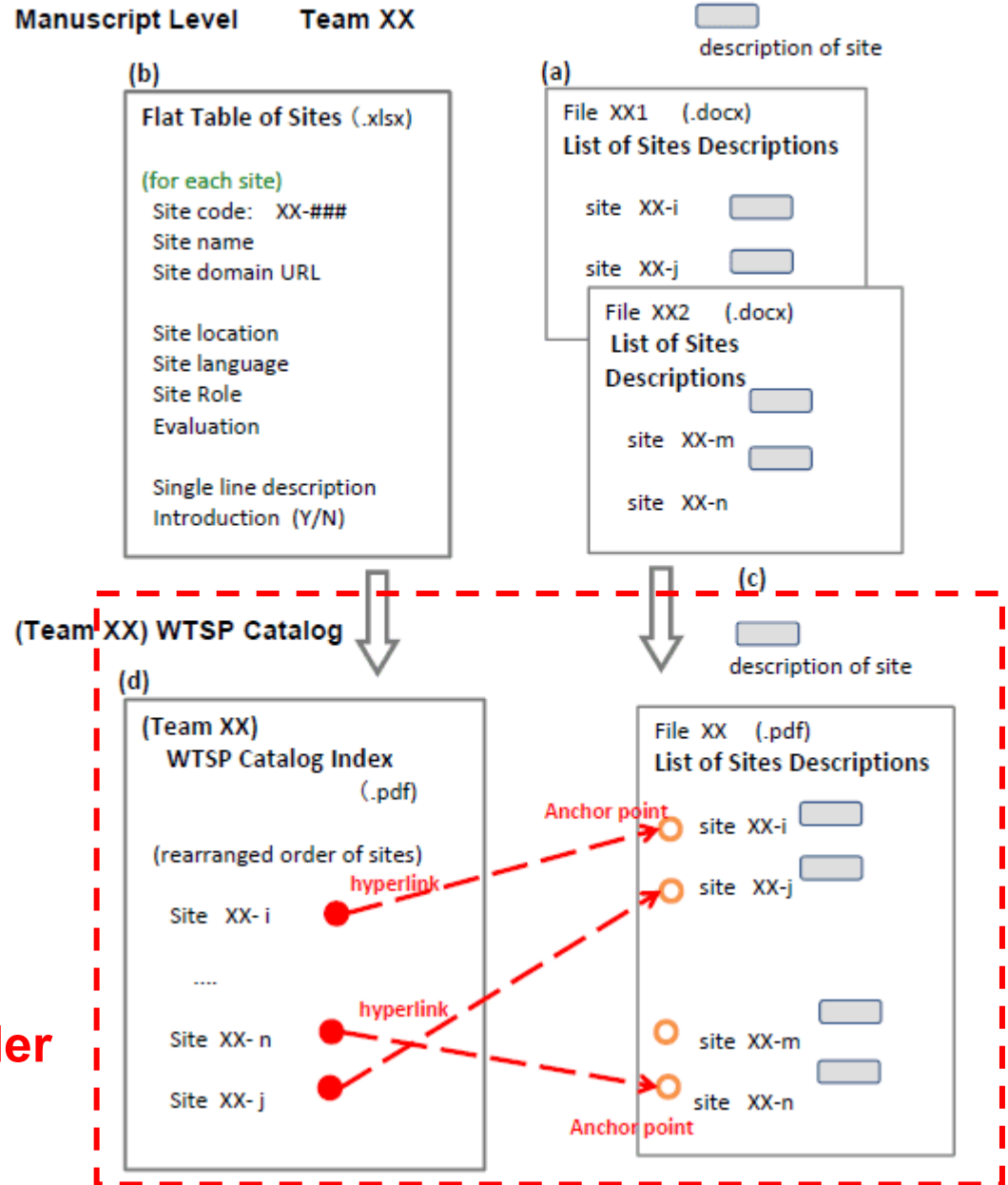
(d) Index page (.html)

(c) Site description page (.html)



Submit to the WTSP Project Leader

World WTSP Catalogs



[2f] TRIZ Sites in Russian Language

(Michael Orloff, Aug. 2019, Aug. 2020)

©-sites – 10

The official foundation of G.S. Altshuller

OTSM by Nikolai Khomenko

Institute of Innovative Design

Education for a New Era

Global Russian Academy of Modern TRIZ by Prof. Michael Orloff

Methodologist

MATRIZ (The International TRIZ Association)

TRIZ Summit / TDS

TRIZ Master Igor Vikentjev

TRIZ-Art school of Roman Florescu "TRIZ-CREATIVITY"

○-sites – 16

Creptime

Web-site by Nikolai Khomenko

Center for Creative Technologies "Ideal Solutions" of group of authors

Academy of TRIZ

Master TRIZ Nikolai Shpakovsky and Elena Novitskaya (twice)

Solving-mill (twice)

TRIZ-SOLVER.COM

TRIZ encyclopedia

Association of Russian Developers, Teachers and Users of TRIZ – RA TRIZ

Open business methods and technologies with TRIZ

System of consulting firms "TRIZ-CHANCE"

Ideal Solutions Company

Group of TRIZ experts

□-sites – 23

[2g] Catalog Manuscripts Contributed by Country Teams

Bottom-up
Approach

Country / language	Author	Number of sites	
Japan (JP)	Toru Nakagawa	◎ 1, ○ 4, □ 5	from 92 sites Jul. 2019
Malaysia (MY)	Eng Hoo Tan	◎ 1, ○ 0, □ 4, △ 11	Jun. 2019
China P.R. (CN)	Runhua Tan	◎ 1, ○ 1, □ 13	Jun. 2019
Russian language (RUL)	Michael Orloff	◎ 10, ○ 15, □ 12	Aug. 2019
		◎ 10, ○ 16, □ 29	Aug. 2020

Many (30 or 40) countries have not contributed their lists of TRIZ sites.

USA, UK, France, Germany, Italy, Korea, Taiwan,

The WTSP project is voluntary based, proposed by Toru Nakagawa, and is supported by many TRIZ colleagues with about 80 Members from 30 countries. However, very few of them actually work for WTSP and no WTSP Teams were formed, because active TRIZ persons are always too busy for their official jobs and businesses.

So we had to shift our efforts towards Top-down Approaches. (Mar. 2019)

[2h] Top-down Approach, using Internet Surveys

Nakagawa started several Internet surveys in the world scale (Mar. 2019)

We decided to build a prototype of World WTSP Catalogs quickly and to demonstrate them at ETRIA TFC 2019 in October.

This will show an (rough) image of the Goal and make the path to it (or process of building the Catalogs) clear.

Internet surveys for TRIZ Sites

Top-down Approach

Country, language	Author	Number of sites
World, English (TN2A)	T. Nakagawa	◎ 6, ○13, □ 29, △ 33
USA, English (TN2F)	T. Nakagawa	◎ 6, ○11, □ 27, △ 24

[2i] TRIZ Sites located in USA (in English) 27 sites

◎ 6 sites

**Altshuller
Institute for
TRIZ Studies**

**The TRIZ
Journal**

**Ideation
International,
Inc.**

GEN TRIZ

**TRIZ Power
Tools**

Wikipedia

○ 9 sites

IET (The Institution of
Engineering and
Technology)

ACM (Association for
Computing Machinery)
Digital Library

Strategies for
Creative Problem
Solving (University of
Michigan)

Amazon

YouTube

SlideShare

GoodReads

Vimeo

LinkedIn

NCBI (National Center for
Biotechnology Information)

TRIZ Asia (TRIZ
Association of Asia)

I-SIM (International Society
of Innovation Methods)

TRIZ Consulting, Inc.

Technical Innovation
Center, Inc

The TRIZ Group

NPD Solutions (New
Product Development
Consulting Service)

SAE International

Glenn Mazur

Novaces.com

Routledge

Southbeach Modeller

Meetup

Idea Connection

Facebook

Quora

IntechOpen

TOC (Theory of
Constraints).tv

ASQ (American Society
for Quality) TV

Emerald Insight

Academia

SSRN (Social Science
Research Network) Papers

SAGE Publishing

IEEE Xplore Digital
Library

Liberating Structures

Information Architected

Dummies

[2j] Building the WTSP Catalogs of AROUND-TRIZ Sites

Double pillars with 'TRIZ Sites Catalogs' and 'AROUND-TRIZ Sites Catalogs'.

To cover the relevant areas widely where TRIZ users want to/should refer.

People in such relevant areas will also use the WTSP Catalogs and will get interested in and familiar with TRIZ.

Separating these two, allowing some duplications, is practical for users.

We should make several Internet surveys with carefully chosen keywords.

Areas become much wider, where we are often unfamiliar or poor.

<==> There can be new findings in methods, applications, organizations, site types, etc.



Top-down
Approach

Nakagawa carried out 6 cases of Internet surveys and visited about 1000 sites one by one and wrote introductions to them.

Excerpts from top pages and About us pages may be practical for site descriptions.
The evaluation need to be tentative.

In addition to the Roles, it may be useful to characterize the sites with respect to Application phases, Application areas, Applied methods, etc.

However, because of its difficulty, we should better postpone such trials.

[2k] Source data of Around-TRIZ Sites Catalogs

Toru Nakagawa, May - Sept., 2019

Top-down
Approach

Case	Search keyword (World, English)	Number of sites
TN3A	Creat* Think* Method*	◎ 1, ○14 □ 15, △3, – 85
TN3A2	Creative Think Method	◎ 1, ○15, □ 65, △33, –56
TN3B	(Creative OR innovative OR Systematic) Problem Solve (Method OR Process OR Technique)	◎ 10, ○26, □ 64, △ 33, –56
TN3C	Innovation (Process OR Strategy OR Method OR management OR Technology)	◎ 3, ○36, □ 78, △ 70, –19
TN3D	(Quality OR Value OR Cost OR Productivity) (Deploy OR Engineering OR Management OR Control OR Analysis) (Method OR Technique OR Theory OR Process OR "Case Study")	◎ 16, ○38, □ 86, △ 36, –41
TN3E	(Patent OR IP OR "Intellectual Property") (Analysis OR Protect OR Circumvent OR Mapping OR Strategy)	◎ 5, ○18, □ 37, △ 15, –17
(B2)	World Around-TRIZ Sites Basic Catalog ◎○	◎ 33, ○127, (□ 19)

In addition, some of ◎○ sites in the area of TRIZ (having some extensions) are included. Also ◎○□ sites around TRIZ in Japan are included.

[3] World WTSP Catalogs of TRIZ Sites and Around-TRIZ Sites

[3a] World WTSP Catalogs (Preliminary Edition, Oct. 2010; Beta Edition, Jun. 30, 2020. Toru Nakagawa)

Code	Catalog name	☉ Sites	○ Sites	(□ Sites)	Type of Catalog *
(A1)	World TRIZ Sites Top Catalog (☉)	☉ 23	--	--	Index / Print
(A2)	World TRIZ Sites Basic Catalog (☉○)	☉ 23	○ 39	--	Index / Print
(B1)	World Around-TRIZ Sites Top Catalog (☉)	☉ 33	--	--	Index / Print
(B2)	World Around-TRIZ Sites Basic Catalog (☉○)	☉ 33	○ 127	(□ 19)	Index / Print

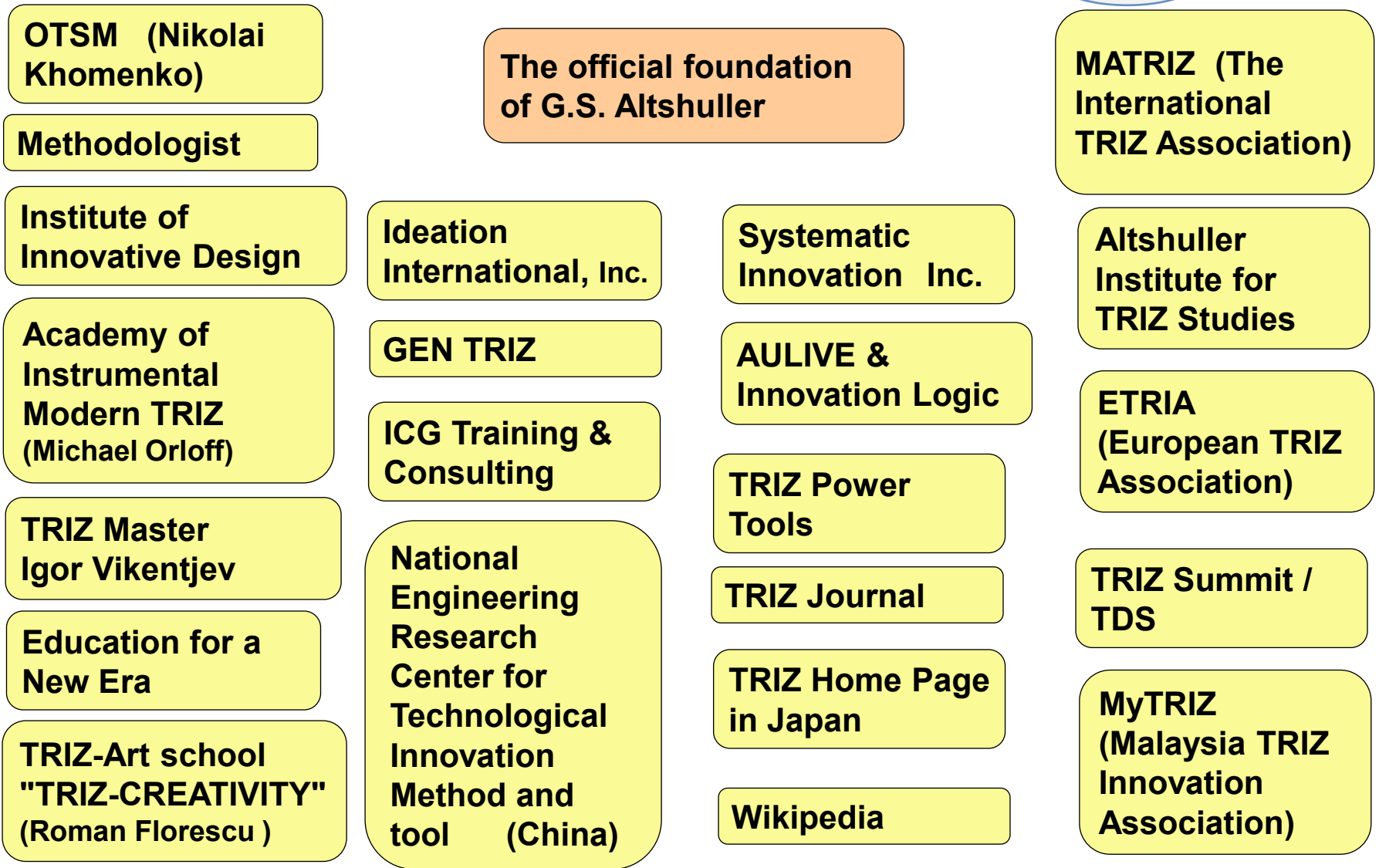
* **Index type:** Descriptions of sites are kept in the separate, original site description files and referred with hyperlink to them during interactive use.

* **Print type:** Descriptions of sites are copied in the Catalog file and are accessible with hyperlinks inside the Catalog file, to be used interactively or in print.

[3b] World TRIZ Sites Catalog

© 23 Most Important Sites

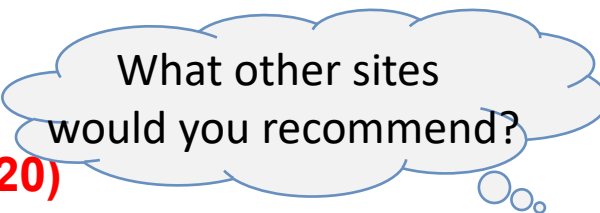
What other sites would you recommend?



Based on the manuscripts from only 4 countries and 2 cases of Internet surveys.

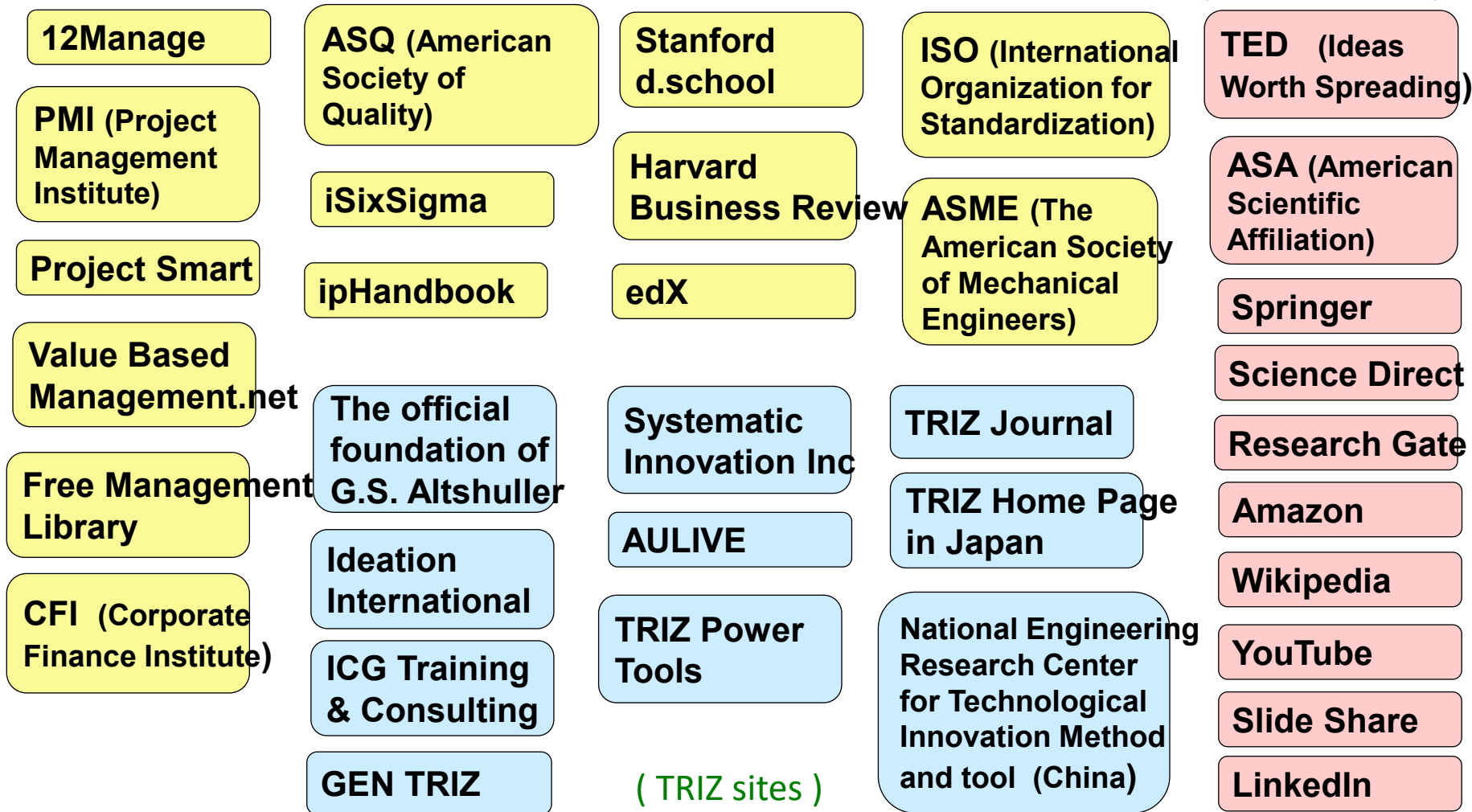
[3c] (B) World AROUND-TRIZ Sites Catalog

© 33 Most Important sites (Beta Edition, Jun. 2020)



(Specific methodologies around TRIZ)

(General sites)

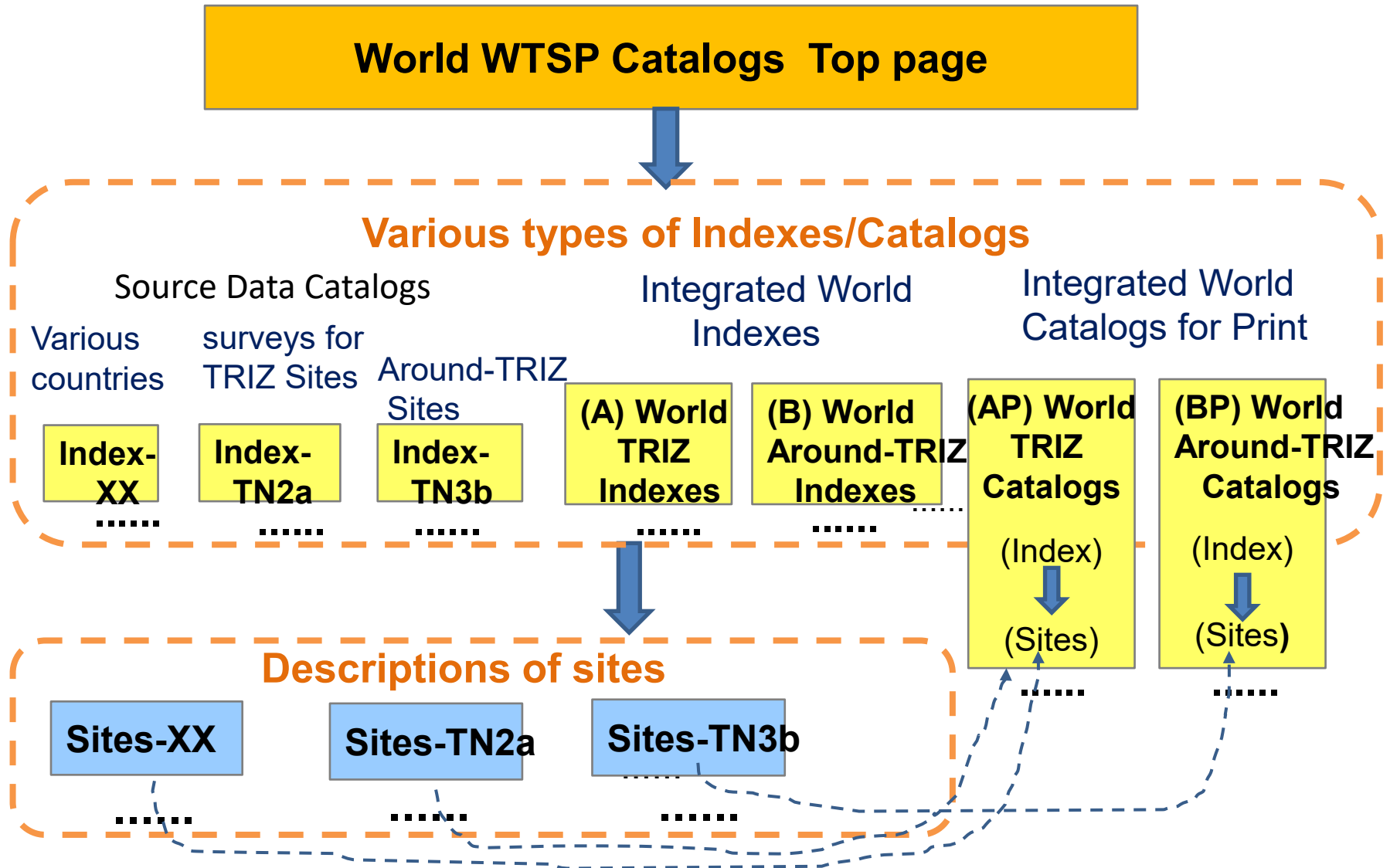


(TRIZ sites)

Selected from about 1000 sites (6 cases of intensive Internet surveys) and Annotated individually well in free-format of 5-15 lines. (Better than World TRIZ Sites Catalogs.)

[3d] Structure of the World WTSP Catalogs (Users' View)

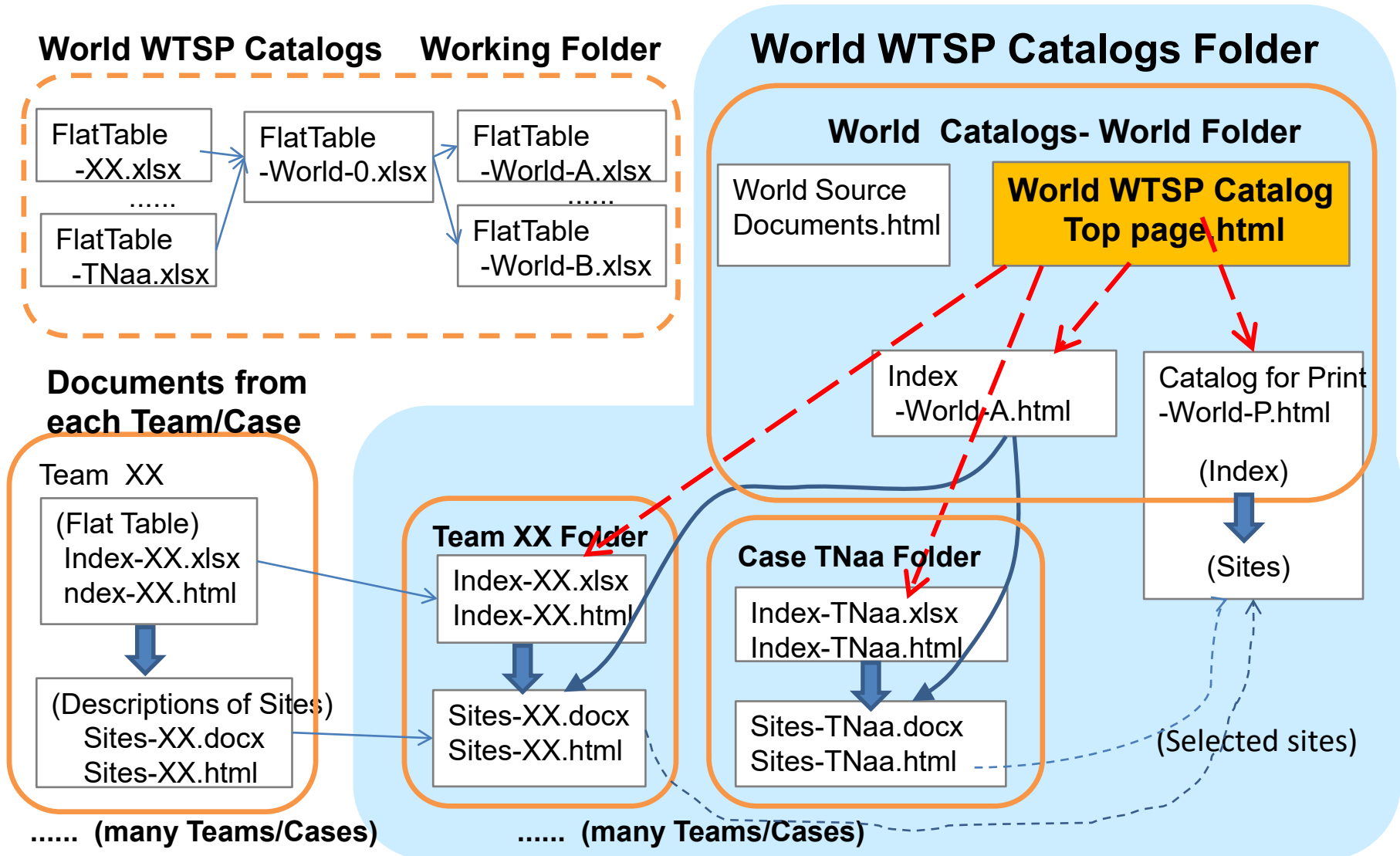
Beta Edition (Jun. 2020)



[3e] Document Structure of the World WTSP Catalogs

(Developer's View)

(Beta Edition, Jun. 2020)



[3f] Strong points in the Structure Design of the WTSP Catalogs

(1) Scalable: Units of catalogs from countries and survey results may be integrated into the world catalogs without changing structure of the units.

(2) Flexible: In each unit of catalogs, index part and site-description part are separated and every site is referred with a hyperlink, and hence the arrangement of sites may be changed freely and independently in the two parts.

(3) Maintainable: Contents of individual sites in the two parts may be revised freely, thus the whole Catalogs can be revised, updated, and changed easily.

(4) Easy integration: Index parts of many units of catalogs may be integrated smoothly and the whole index may be built flexibly by categorizing/rearranging all the sites in various criteria. During the integration of indexes, the site-description parts are not disturbed at all and the hyperlinks are active as before.

(5) Multiple sets of catalogs: Due to the flexible integration of indexes, multiple sets of integrated indexes (e.g. World Catalogs) may be made for various needs, without any duplication of the site-description parts.

(6) Interactive use: Various integrated/unit Catalogs can be accessed easily in the interactive use of the system of World WTSP Catalogs.

(7) Catalogs for print: Some World Catalogs are made to contain individual site descriptions in the index part. Thus such Catalogs may be downloaded as a HTML or PDF file, which may be printed just like a booklet and may be used interactively on user's PC without accessing to the WTSP website.

[3g] Sites are categorized and arranged with 'Roles of sites'

Roles of site	typical subcategories	◎、○ TRIZ Sites
(a) Information sending sites	(a1) Dedicated for information sending, (a2) Public Web sites,	9, 4
(b) Promotor organizations	(b1) Dedicated associations, (b2) Dedicated (academic) societies, (b3) International conferences,	5, 4
(c) Public organizations	(c1) International organizations, (c2) National organizations,	1, 1
(d) Academia,	(d1) Universities, (d4) Academic societies (in general fields),	0, 0
(e) Developer organizations	(e1) Method developers, (e2) Software/tool developers, (e4) Consultants, (e5) Training organizations,	7, 15
(f) Publishing organizations	(f1) Journals, (f2) Publishers, (f3) Repository, (f4) Book sellers,	0, 6
(g) Information sharing,	(g1) Mass media, (g2) Technology news, (g3) Knowledge sharing, (g4) Social networks,	1, 7
(h) User organizations	(h1) Industrial organizations, (h2) Companies, (h3) Educational organizations, (h5) User groups,	0, 2
(i) Personal	(i1) Individual researchers, (i3) Personal Web sites, (i4) Personal Blog sites, ...	0, 0

[4] Concluding Remarks

[4a] User's Evaluation

(Dr. Bill Fowlkes, Oct. 2019)

To the World TRIZ-related Sites Project (WTSP) Global Co-editors:

I welcome the work you are doing to collect, organize, describe and link to the many internet sites that are of interest to students and practitioners of innovative methods such as TRIZ.

I have created a new bookmark folder with links to the WTSP Catalogs of TRIZ sites and the WTSP Catalogs of AROUND-TRIZ sites, and I expect that I will be referring to them frequently.

The aggregation of these sites is much better than trying to find the data with a Google search, because the information is curated and brief descriptions are provided.

I encourage TRIZ providers and other content creators working in TRIZ related fields to participate in this project and make the World TRIZ-related Sites Project the best it can possibly be.

Dr. William Y. Fowlkes
VP, Analytics and Workflow Solutions | IP.com

Oct. 30, 2019

[4b] Three Basic Requirements for Any Catalog from Users

Cf. 'Catalogs of Good Restaurants', 'Catalogs of Sight-seeing Places', etc.

Req. 1: Collect good items (i.e. websites) widely, select them with evaluation, and show them in categories.

We are only half the way.

Collaboration by many TRIZ Colleagues is necessary.

Req. 2: Individual items should be introduced in a proper/fair manner briefly or closely so as to guide the readers/users to the items.

Insufficient.

We need collaboration by individual site owners. See next slides.

Req. 3: It should be easy for users to find one or many items which match their current interest/needs inside the Catalog.

No mechanism yet.

We want to design and implement some search mechanism.

[4c] Standard Form of Site Description to be filled by the Site Owner

Ex: Team: JP, Site Code: JP-01,

Site Name **	Ex. TRIZ Home Page in Japan (Toru Nakagawa)	
Site domain URL **	Ex. https://www.osaka-gu.ac.jp/php/nakagawa/TRIZ/eTRIZ/ (English), http://www.osaka-gu.ac.jp/php/nakagawa/TRIZ/ (Japanese)	
Site Location **	Ex. Japan	#
Site Language **	Ex. en, jp	#
Roles of Site **	Ex. (a2) Public Web site, (e1) Method developer, (a1) Dedicated for information sending	#
Evaluation **	Ex. ◎ (5 grades: ◎ ○ □ △ -)	#
Single-line Description *	Ex. Public Web site dedicated for TRIZ proliferation in Japan and in the world. Editor Toru Nakagawa	
Application phase *	Ex. (b) Problem finding and analysis phase, (c) Solution generation phase, (g) Others: Education	#
Application Fields *	Ex. (c) Engineering , (a) General/universal, (g) Humanity fields	#
Methods *	Ex. (e) Systems analysis, (g) Idea generation tools, (n) Modernized TRIZ methods; USIT method, Six-Box Scheme	#
Description of Introduction *	Ex. Active public site in TRIZ since 1998, publicizing many articles by various international authors besides the editor Toru Nakagawa. (Free format, in 5 - 10 lines)	
Further Detailed Information	(Optional) (Separate HTML file, Free format, 2-5 (or 10) pages in A4) Ex. SiteIntro-JP-01-THPJ.html (Written by Toru Nakagawa on Feb. 12, 2020)	
Note of description	Ex. Written by Toru Nakagawa (Site Owner), Feb. 13, 2020	

** Mandatory, * Desirable; #: Use codes for categorizations (See detail in the WTSP website).

[4d] Optional: Close Introduction by the Site Owner

Free format in 2 - 5 pages (or more) in A4, a separate file.

Choose some style suitable for the site depending on the nature of the site

Ex. "TRIZ Home Page in Japan" (Toru Nakagawa) (16 pages in A4)

(1) Features:

History, Editor, Purpose,
Fields/types/scopes of articles,
Special features (Parallel in Japanese and in English,
Methods for accessing articles)



(2) Selected Articles (Brief explanation of selected 160 articles)

- (a) Introducing TRIZ (1997~2001)
- (b) Introducing USIT (Unified Structured Inventive Thinking) (1998 - 2001)
- (c) Extending USIT (USIT Operator System) (2002 - 2003)
- (d) Absorbing Modernized TRIZ (At International conferences, etc.)(2001 - 2004)
- (e) 'Six-Box Scheme: A new paradigm of creative problem solving' (2003 - 2006)
- (f) Activities of Japan TRIZ Society and Japan TRIZ Symposia (2005 - 2008)
-
- (k) 'Liberty vs Love': the Principal Contradiction of Human Culture (2015 - 2019)
- (l) World Catalogs of TRIZ-related Sites (WTSP Project) (Dec, 2017 - present)

[4e] Some more final steps to the Goal of WTSP

Beta Edition of World WTSP Catalogs demonstrates our Goal.

It can be enhanced step by step;

Now, you can actually contribute to the WTSP project easily:

If you are a site owner: Write an introduction to your own site.

If you are a user: Make a list of sites you like/recommend.

If you are a TRIZ leader: Take the leadership of coordinating your people.

Then you all form a WTSP Team with a voluntary Team Leader and work together along the practice guide.

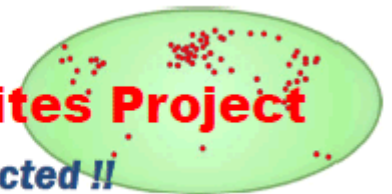
In a year, the Catalogs will get many users, from beginners to experts.

All your efforts are helpful for many people and fruitful for yourselves.

Let's work Together ! Connected !!

World TRIZ Sites Project

Together ! Connected !!





Thank you for your attention.

Toru Nakagawa (Osaka Gakuin University, Professor Emeritus)
nakagawa@ogu.ac.jp

Editor of "TRIZ Home Page in Japan" (in Japanese and in English)
<http://www.osaka-gu.ac.jp/php/nakagawa/TRIZ/eTRIZ/>

World TRIZ-related Sites Project (WTSP) Project Leader

Let's work Together ! Connected !!