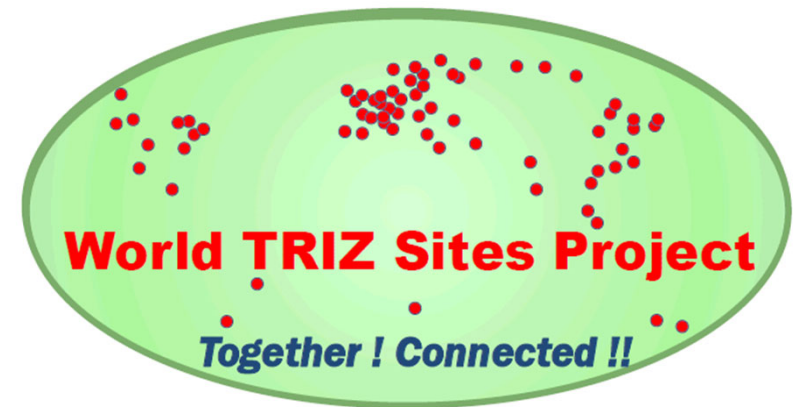


18th TRIZ Symposium in Japan 2022
Sept. 1 (Thu) - 2 (Fri), 2022
Online



WTSP World TRIZ Sites / Around-TRIZ Sites Catalogs (5)
Useful & Attractive Information Source
-- Use Actively and Improve Them Further

Toru Nakagawa (Osaka Gakuin University, Japan)

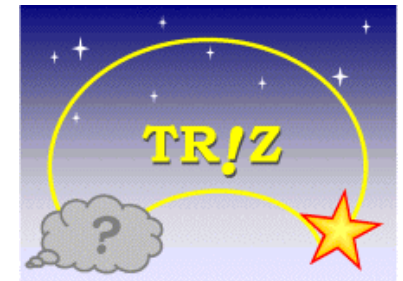
Darrell Mann (Systematic Innovation Network, UK),

Michael Orloff (Academy of Instrumental Modern TRIZ,
Germany),

Simon Dewulf (AULIVE & Innovation Logic , Australia)

Simon Litvin (GEN TRIZ, LLC., USA)

Valeri Souchkov (ICG Training & Consulting, Netherlands)



Outline of Presentation

[1] Introduction: Vision & Brief History of the WTSP Project

Vision, Website as the unit, Basic requirements for Catalogs,
Evaluation Criteria of Websites, Brief History

[2] WTSP World Catalogs of TRIZ-related Sites: Structure & Usage

Description of individual websites, Standard Form, Close introduction,
Structure of a Catalog page, Country WTSP Catalog,
Structure of World WTSP Catalogs, World WTSP Catalogs,

[3] Outputs: World WTSP Catalogs (Jul. 2022)

Japan WTSP Catalog, TRIZ sites in individual countries, World TRIZ Sites Catalogs,
Building Around-TRIZ Catalogs, World Around-TRIZ Sites Catalogs,
WTSP World TRIZ-related Sites Catalogs

[4] Concluding Remarks

What we learned from WTSP World Catalogs, Examining World WTSP Catalogs,
Problems and Future of the WTSP Project

Proposal to Establish a New Website Representative in TRIZ

[1] Introduction: Vision & Brief History of the WTSP Project

[1A] Vision of the WTSP Project

- In the field of TRIZ and Around-TRIZ, we collect good information sources and publicize them openly in Catalogs.
- We cover a wide scope of 'Creative Problem Solving Methodologies' in general.
- On such various methodologies, we have multiple interests in their theoretical bases, application methods, practices, case studies, promoting organizations, activities, etc.
- As the units of information sources, we focus on Websites and create Catalogs of reliable and useful Websites in the world with annotations of individual Websites.
- We try to explore good Websites which have been buried in the flood of information.
- Such Catalogs will make 'Methods for achieving Innovations' clearer and widely known.
- The activities for creating the Catalogs will cultivate cooperative relationships among the people working in these relevant fields.

 Nakagawa proposed & started the WTSP Project on a voluntary basis.
(Dec. 2017)

[1B] Websites are useful as the unit of information sources

Cf: papers, articles, web pages, patents -- Smaller, scattering

books, journals, conferences, repositories -- Larger, enumerative

- Websites represent some active entities (e.g., organizations, groups, key persons)
- The activities of Websites usually last several years or decades.
- A series of outputs (works, documents) are posted in a large amount, with some categorization, and in reasonably high quality.
- Easily accessible with URLs, open to public, and usually free/low of charge.
- Documents are written easy to understand, updated and accumulated, and showing the latest versions.
- Useful as the access points to relevant primary information sources
- Websites may have quite different purposes, natures, types, contents, etc.

[1C] 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 in our case) widely, select them with evaluation, and show them in categories.**
- 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.**
- Req. 3: It should be easy for users to find one/many items which match their current interest/needs inside the Catalog.**

We are working to create the World WTSP Catalogs fulfilling these requirements as much as possible.

[1D] Evaluation Criteria of Websites in the WTSP Catalogs

cf. Internet surveys output hundreds of webpages without proper selection.

Our Criteria of Website Evaluation (Multiple criteria for accepting diversity)

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

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

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

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

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

Symbol marks for showing the evaluation

- ◎ Most important (top about 30) in World Catalogs
- Important (next about 100) in World Catalogs
- Worthy in World Catalogs,
- △ Worthy in Country Catalogs,
- Insignificant/irrelevant.

We should evaluate every Website even tentatively at the early stage, and refine the evaluation later through public reviewing.

[1E] Brief History of the WTSP Project (Activities and Outputs)

2017 Dec. **Started the WTSP Project.** Volunteer based, with many supporters.

2018 Apr. Pilot project. Completed the Japan WTSP Catalog.

Oct. Presentation at ETRIA TFC2018.

About 80 Members/Members-to-be from 30 countries

2019 Oct. **Preliminary Edition of World WTSP Catalogs.**

TRIZ sites and Around-TRIZ sites.

2020 Jun. Brushed up into **Beta Edition.** (Established Structure and building)

Oct. Presented at 5 TRIZ conferences Online. Russia, USA, Europe (Romania), Taiwan, Japan (Japan Creativity Society).

2021 Apr. Internet surveys of TRIZ website in 52 countries individually.

2022 Jun. World Catalogs of Around-TRIZ Sites are revised and enhanced.

Situations of Activities

- We have been posting the reports on our plans, process of building the Catalogs, outputs, etc. in "TRIZ Home Page in Japan", and sent emails regularly to about 200 members/supporters of the WTSP Project.
- Even though we have many members/supporters, very few of them actually work for making Country Catalogs in a Team and writing site introductions.

[2] WTSP World Catalogs of TRIZ-related Sites: Structure & Usage

[2A] Description of Individual Websites : 4 Stages

(0) Basic Information to be used in the Index part

(to be written by Surveyor, Site-owner)

Site Code, Evaluation, Site name, Site domain URL,
Location (Country), Language(s)
Role(s) of site, Single-line description

(a) (0) + Brief introduction (in free format, 3-15 lines)

(by Surveyor)

(b) Description in the WTSP Standard Form (A4, 1 page) Mandatory

(by Site-owner)

(0) + Application phase(s), Application field(s), Method(s),
Introduction of site (5-10 lines), Link to (c) Close Introduction

(c) Close Introduction in free-format (A4, 2 to 10+ pages) Optional

(by Site-owner)

[2B] Standard Form of Site Description to be filled by the Site Owner

Ex: Team: JP, Site Code: JP-10, Written by Kazuya Yamaguchi

Site Name **	Ex. MOST LLC (Kazuya Yamaguchi)	
Site domain URL **	Ex. http://www7b.biglobe.ne.jp/~most/ (Japanese)	
Site Location **	Ex. Japan	#
Site Language **	Ex. jp	#
Roles of Site **	Ex. (e4) Consultants, (a1) Dedicated for information sending	#
Evaluation **	Ex. ○ Important (about top 100) in the World Catalogs (5 grades: ◎○□△-)	#
Single-line Description *	Ex. Trace records in consulting in the whole engineering fields, by use of QFD-TRIZ-Taguchi Method.	
Application phase *	Ex. (c) Solution generation phase: (c1) Idea generation, (c2) Solution building, (c3) Solution evaluation and selection	#
Application Fields *	Ex. (c) Engineering: all the subfields of Engineering (c1) through (c9)	#
Methods *	Ex. (b) Needs and problem finding: (b2) Quality Function Deployment (QFD), (g) Idea generation tools: (g1) Use of typical patterns of idea generation, (h) Solution building methods: (h1) Design methods, (j) Solution implementation methods: (j3) Manufacturing, mass production,	#
Description of Introduction *	Ex MOST LLC has obtained from many companies/laboratories, who used to have serious difficulties, the reputations that they were navigated well to wonderful solutions through consulting. .. (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-10-MOST.html (Written by Kazuya Yamaguchi)	
Note of description	Ex. Written by Kazuya Yamaguchi (Site Owner), Aug. 31, 2020	

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

[2C] 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 its nature.

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

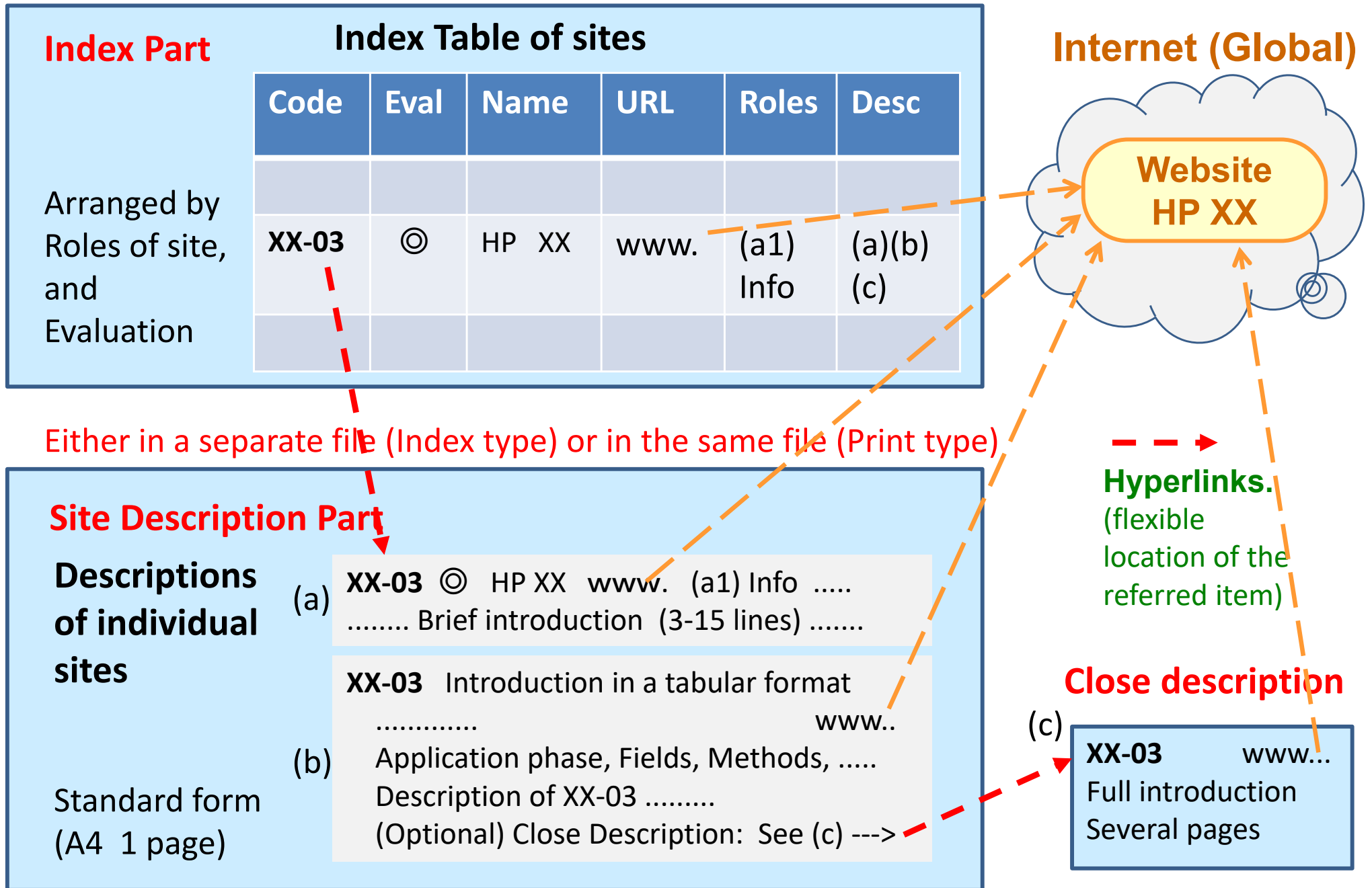
(1) Features: History, Editor, Purpose,
Fields/types/scopes of articles,
Special features (Parallel in Japanese and
in English, Methods for accessing articles)



(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)
- (g) Education with TRIZ/USIT at Osaka Gakuin Univ. (2000 - 2012)
- (h) Activities of Japan TRIZ Society and international communications (2009 - 2012)
- (i) 'General Methodology of Creative Problem Solving' with Six-Box Scheme (2012-2016)
- (j) Various topics of communications/issues/interests in wider scopes (2011 - 2019)
- (k) 'Liberty vs Love': the Principal Contradiction of Human Culture (2015 - 2019)
- (l) World Catalogs of TRIZ-related Sites (WTSP Project) (Dec, 2017 - present)

[2D] Structure of a sample page in WTSP Catalog



[2E] Preparing Manuscripts of WTSP Catalogs in Each Country

Manuscripts to be prepared by WTSP Team

(b) Table of sites (.xlsx)

Basic data for indexing

(a) Descriptions of sites (.docx)



Convert into HTML

Country WTSP Catalog

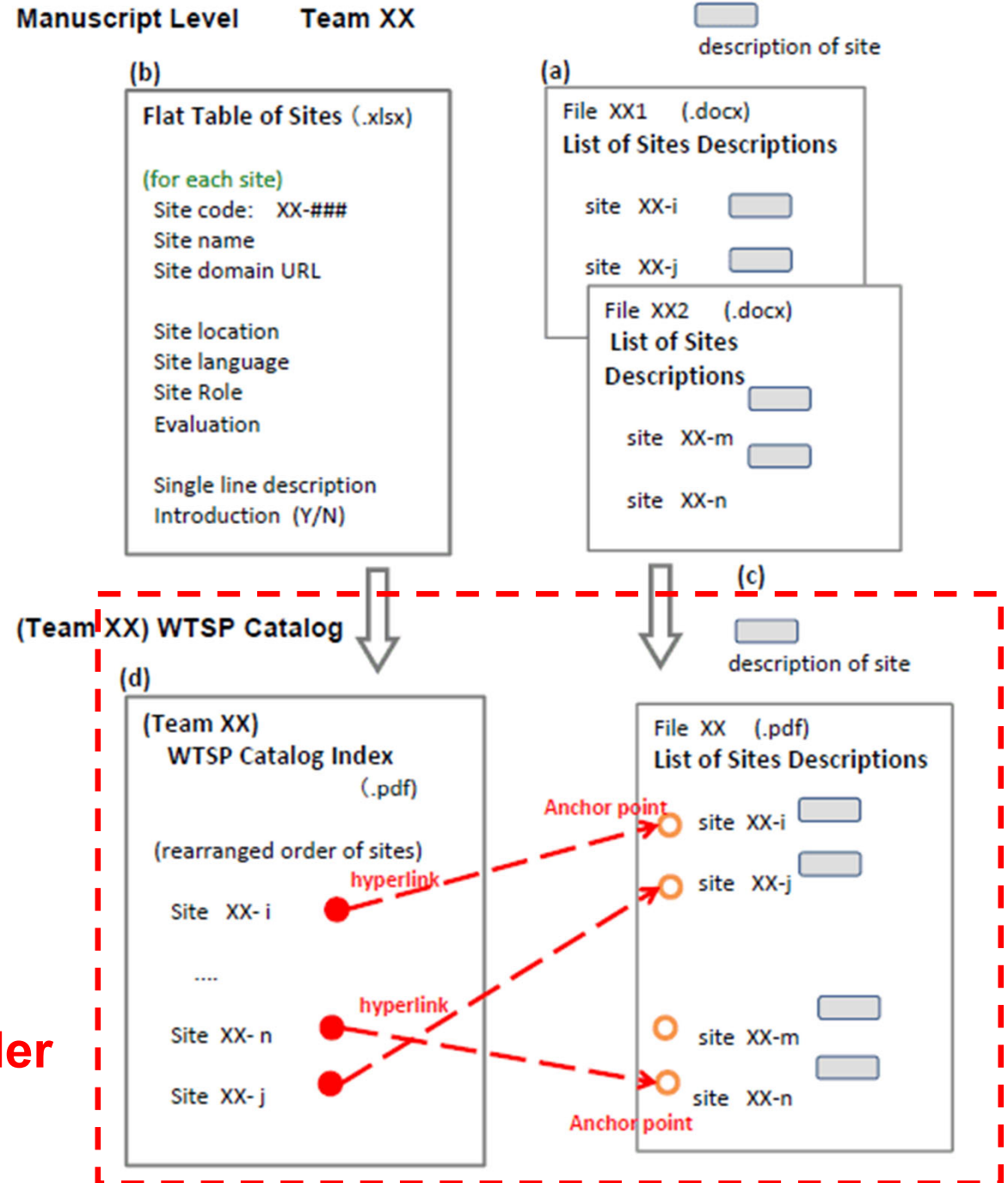
(d) Index page (.html)

(c) Site description page (.html)



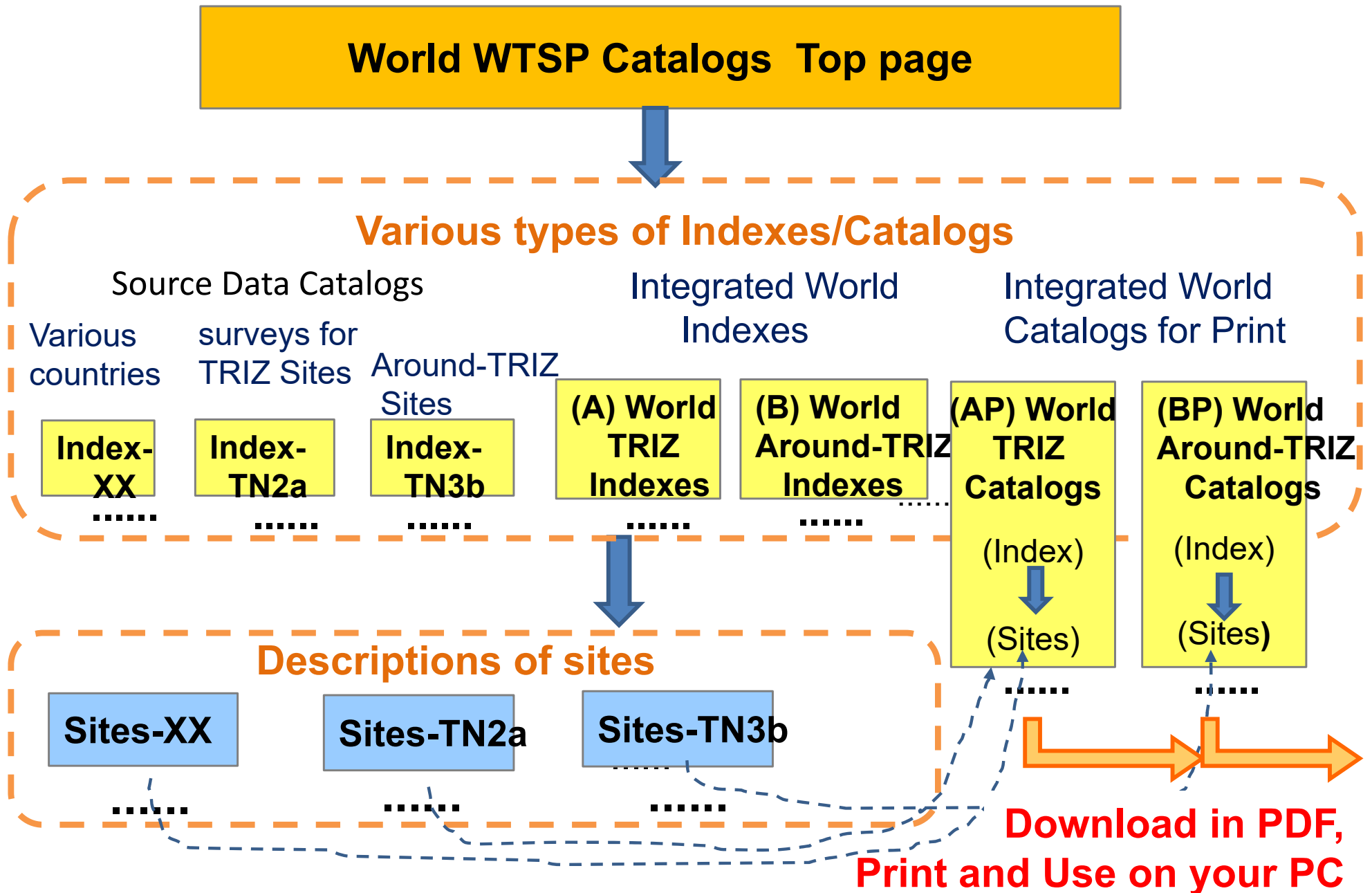
Submit to the WTSP Project Leader

World WTSP Catalogs



[2F] Structure of the World WTSP Catalogs (Users' View)

Beta Edition (Jun. 2020)



[2G] World WTSP Catalogs

Contents	Catalog name	Levels of Contents	Code name	
			Index type	Print type
(A) TRIZ sites	Top Catalog	◎	(A1)	(A1P)
	Basic Catalog	◎ ○	(A2)	(A2P)
	Extended Catalog	□	(A3)	(A3P)
(C) Around-TRIZ sites	Top Catalog	◎	(C1)	(C1P)
	Basic Catalog	◎ ○	(C2)	(C2P)
	Extended Catalog	□	(C3)	(C3P)

- **Index type** Descriptions of individual sites are kept in the original site description files and are accessed interactively from (various) Indexes.
- * **Print type** Print type Catalogs are PDF files which may be downloaded by the user for using interactively in PC or for printing as a Catalog booklet where the description of individual sites are already included in the PDF file.

[3] Outputs: World WTSP Catalogs (Jul. 2022)

[3A] Japan Part of World WTSP Catalogs (Jul. 2019, Toru Nakagawa)

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)
- △ 45 Other sites

Japan Around-TRIZ Sites

- Idea Marathon Institute (Takeo Higuchi)
- J-STAGE (JST)
- Daiichi Kousha (Akihiro Katahira)
- Netman (Ken-ichi Nagaya)
- 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
- △ 20 Other sites

[3B] Survey of TRIZ Sites in Individual Countries (Nov. 2021)

Reg	Country	Det.	TRIZ	Around TRIZ
A-Europe				
	Austria	26	4	0
	Belgium	22	Not Selected yet	
	Czech Republ	24	5	0
	Denmark	14	0	0
	Finland	21	5	0
	France	55	Not Selected; Many good.	
	Germany	68	Not Selected; Many good.	
	Greece	8	1	1
	Hungary	13	2	2
	Iceland	11	1	6
	Italy	50	Not Selected; Many good.	
	Netherlands	33	5	0
	Norway	4	2	0
	Poland	50	Not Selected yet	
	Portugal	15	4	1
	Romania	9	4	2
	Spain	27	7	8
	Sweden	19	Not Selected yet	
	Switzerland	21	6	4
	UK	39	Not Selected; Many good.	
B-Russian				
	Russia	Already shown.		
C-MidEast				
	Iran	64	6	0
	Israel	24	4	3
	Turkey	27	9	1
D-Asia				
	Bangladesh	3	0	0
	China	Already shown.		
	Hong Kong	16	5	8
	India	45	5	10
	Indonesia	37	9	1
	Japan	Already shown.		
	Korea	72	Not Selected; Many good.	
	Malaysia	Already shown.		
	Pakistan	11	3	4
	Philippines	11	0	2
	Singapore	15	7	3
	Sri Lanka	6	Not Selected yet	
	Taiwan	45	Not Selected; Many good.	
	Thailand	31	Not Selected yet	
	Vietnam	24	11	1
E-Oceania				
	Australia	23	Not Selected yet	
	New Zealand	7	3	1
F - N America				
	Canada	30	1	3
	USA	Already shown.		
G- CS America				
	Argentina	10	1	4
	Bolivia	6	0	3
	Brazil	41	6	1
	Chile	12	1	5
	Colombia	19	2	7
	Costa Rica	12	3	3
	Mexico	23	4	0
	Nicaragua	6	0	1
	Peru	13	2	2
	Uruguay	7	1	1
H- Africa				
	Egypt	8	2	0
	Kenya	6	2	0
	Morocco	13	7	1
	South Africa	9	6	0
Total		725	146	89
Total (Not Sel.)		480		

40 countries: Detected 725 sites, rated: $\triangle \square$ (or higher) TRIZ 146 sites, Around-TRIZ 89 sites
 12 countries: Detected 480 sites, not rated yet.

Including major countries: UK, France, Germany, Italy, Korea, Taiwan, Australia
 5 other countries, Already shown in the Catalogs: Japan, Malaysia, China, Russia, USA

[3C] World TRIZ Sites Catalog

© 23 Most Important Sites

(Jun. 2020. Toru Nakagawa)

OTSM (Nikolai Khomenko)

Methodologist

Institute of Innovative Design

Academy of Instrumental Modern TRIZ (Michael Orloff)

TRIZ Master Igor Vikentjev

Education for a New Era

TRIZ-Art school "TRIZ-CREATIVITY" (Roman Florescu)

The official foundation of G.S. Altshuller

Ideation International, Inc.

GEN TRIZ

ICG Training & Consulting

National Engineering Research Center for Technological Innovation Method and tool (China)

Systematic Innovation Inc.

AULIVE & Innovation Logic

TRIZ Power Tools

TRIZ Journal

TRIZ Home Page in Japan

Wikipedia

MATRIZ (The International TRIZ Association)

Altshuller Institute for TRIZ Studies

ETRIA (European TRIZ Association)

TRIZ Summit / TDS

MyTRIZ (Malaysia TRIZ Innovation Association)

Note: Based on the manuscripts from only 4 countries (Japan, Malaysia, China, Russian region) and 2 cases of Internet surveys (USA, World). Important sites from various countries are missing.

[3D] Building the WTSP Catalogs of Around-TRIZ Sites (2nd Pillar)

Aims: 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.

We also hope integral use of methods of different origins.

'Around-TRIZ' is a temporary naming, standing for 'Creative Problem Solving Methodologies in general',

We made 5 cases of Internet surveys with the keywords (simplified here).

Creative Think Method ; Problem Solve ; Innovation ;
Quality/Value/Cost/Productivity Management ; Patent/IP

We detected about 1000 websites in total.

Visiting the sites one by one, we found their site name, site domain URL, described brief introductions (about 5 - 15 lines), and evaluated (©○□△—).

Basic Catalog of Around-TRIZ Sites (©○) in the World was publicized. (2019)

We visited all these sites again and revised the description and evaluation of sites.

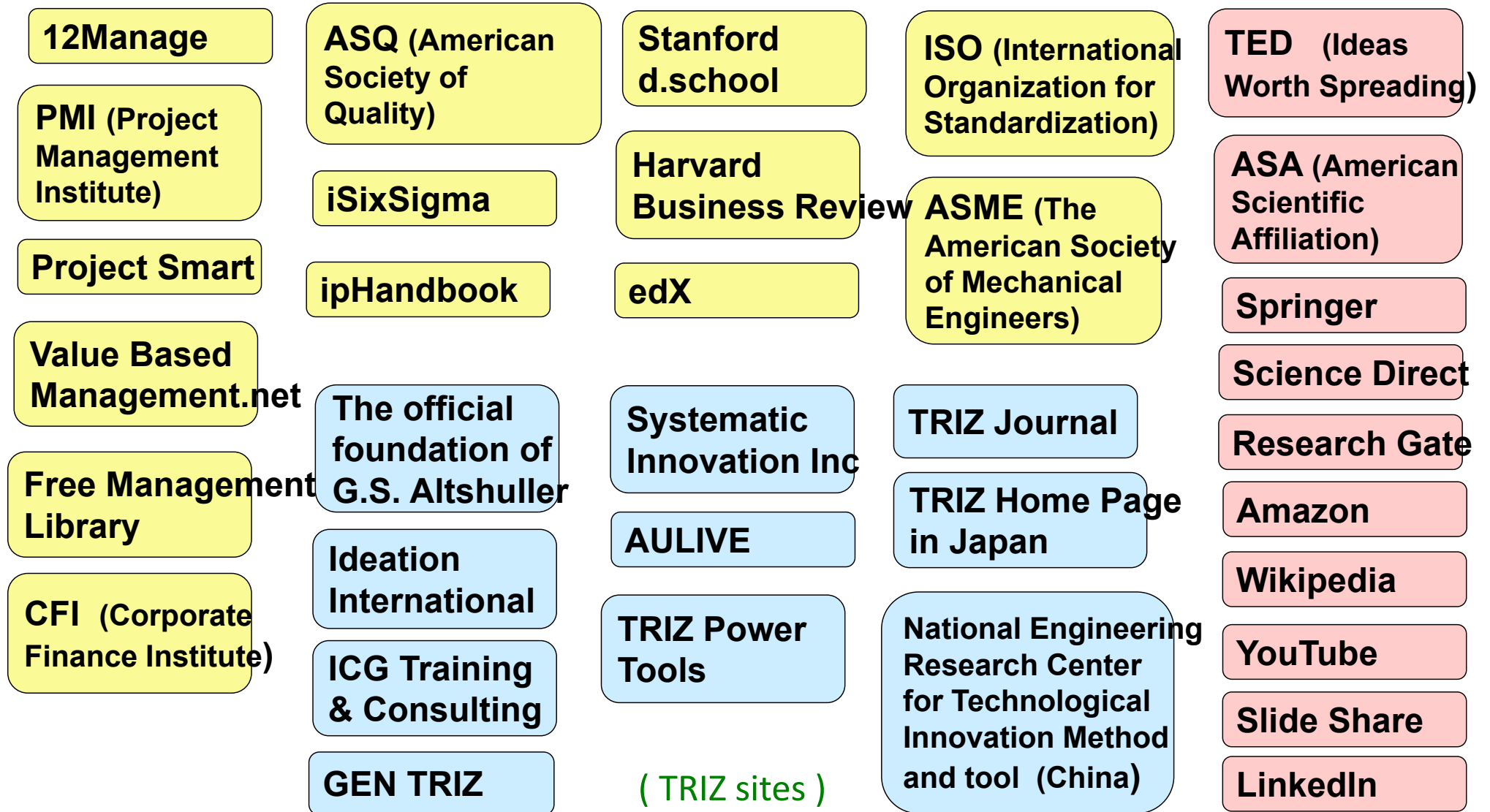
**Basic Catalog (©○) is revised and
Extended Catalog (□) is newly built. (2022)**

[3E] World Around-TRIZ Sites Catalog © 33 Most Important sites

(Beta Edition, Jun. 2020, Toru Nakagawa)

(Specific methodologies around TRIZ)

(General sites)



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

[3F] WTSP World TRIZ-related Sites Catalogs at Present (Jul. 6, 2022)

(Main) Role of site	WTSP World Catalogs					
	(A) TRIZ Sites (2020)			(C) Around-TRIZ Sites (2022)		
	◎ Most Important	○ Important	□ World Worthy	◎ Most Important	○ Important	□ World Worthy
(a) Information sending sites	9	4		10	20	12
(b) Promotor organizations	5	4		3	8	6
(c) Public organizations	1	1		3	10	24
(d) Academia	0	0		2	17	33
(e) Developer organizations	5	8		5	37	84
-- (e5) Training organizations	2	7		0	9	19
(f) Publisshing organizations	0	6		5	17	13
(g) Information sharing	1	7		5	12	21
(h) User organizations	0	2		0	12	27
(i) Personal	0	0		0	0	5
(Total number of sites)	23	39		33	142	244

[4] Concluding Remarks

[4A] What we learned from the WTSP World Catalogs

- TRIZ has various approaches (classical, technical fields, simplified, extended (business, IT/SW, bio fields), modernized, reconfigured, used/integrated with other techniques, etc.).
- There are a diversity of methodologies around TRIZ, each having its own active websites. Among these methodologies including TRIZ. there seem no much communication, collaboration, and integral use.
- Besides theoretical elaboration of each method, we face with various themes such as application methods, real cases including global major problems, developing organizations, applying in business, etc.
- Papers published at conferences and in journals are surely registered in repositories (at university/national/international level). Exhaustive and difficult to select good papers.
- Various websites are working for developing methods/tools, information dissemination/sharing, training, consulting, eLearning, book sales, etc. and giving rich information.
- WTSP Catalogs are unparalleled as catalogs of websites in a specific field in the world.
- WTSP Catalogs already contain a wealth of carefully selected information. Experts, users, and beginners in TRIZ and related fields will take advantage of them.
- In spite of many excellent websites in TRIZ field, we need to have a representative TRIZ website where selected articles/papers coming from diverse approaches are published.

[4B] Examining the World WTSP Catalogs with the Basic Requirements

- Here we examine the current World WTSP Catalogs in comparison with the three Basic Requirements for Catalogs, in order to think over the situations and problems in the WTSP Project, running for these four and half years.
- Req. 1: Collection/evaluation/presentation of Websites: For these processes, we have built the methods, criteria, guidelines, etc. at a reasonably high level. Except the Project Leader's direct survey works, however, we have no Team activities of Catalog building in any country, and hence the collection of TRIZ sites is quite insufficient.
- Req. 2: Describing introduction of individual Websites: We have established the 4 stages of site description. (0) (a) are for Necessity, while (b) for Usefulness and (c) for Attractiveness of WTSP Catalogs. (0) Basic data of site for indexing and (a) Brief introduction were recorded by the surveyors. (b) Descriptions in Standard Form (Mandatory) and (d) Close Introduction in free format (Optional) are requested to the Website owners. Unfortunately, only a few tens of (b) and less than 10 of (c) were written by the site owners. Thus we fill Req. 2 only at a level of basic necessity.
- Req. 3: Easy to find sites: We show the websites categorized with Evaluation and Roles of site. Search function is not installed yet. Key data for searching are implemented mainly in Form (b). Defects in Req. 2 weaken the ground for Req. 3.

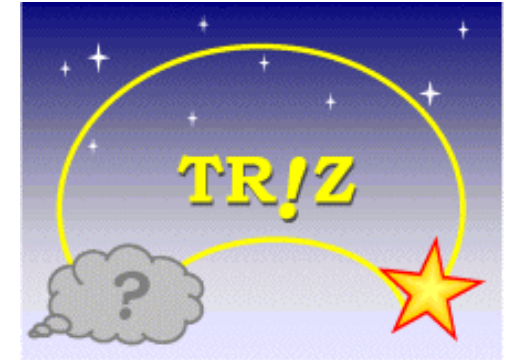
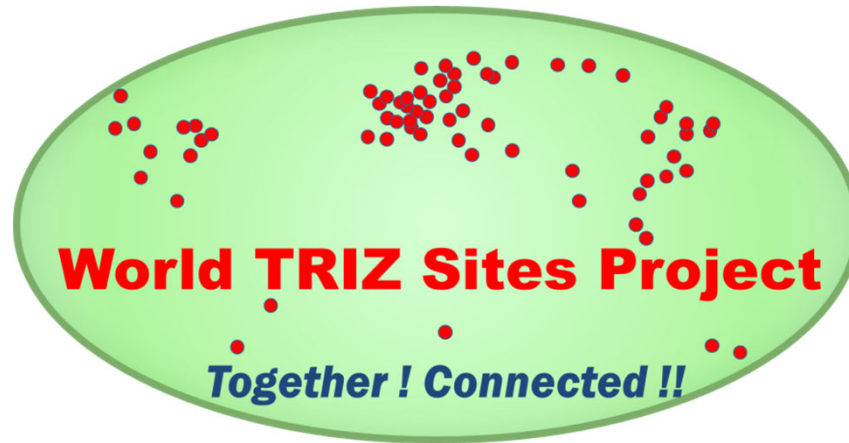
[4C] Problems and Future of the WTSP Project

- The insufficiencies found above are due to the lack of Team works in many countries and the neglect by the site-owners in writing their site introductions.
- Since the start, the WTSP project had many supporters in various countries. In Oct. 2018, we had 80 members (including signed to be) from 30 countries.
- Problem: "We have many members/supporters, but very few of them actually work."
- Policy: "Show our vision clearly, and provide good prototypes/examples/guidelines. Divide the jobs into small ones, suitable to work in parallel & collaboratively. Report results, recommend and encourage supporters/users constantly."
- Appeal 1: World Catalogs of TRIZ-related Sites are ready. They are useful!
- Appeal 2: Form a Team in your country, make a list of outstanding websites, and ask the site owners to write introductions to their own sites.
- Appeal 3: To site-owners: please write introductions to your own site, and Please work with your colleagues to build your country's WTSP Catalog.
- Appeal 4: Let's work Together! Connected!! Let's learn TRIZ and use it !!!.

Let's Create a New Website Representative in TRIZ (and related fields)!

- There are many good TRIZ websites, but they are working independently and competing to give confusing picture of TRIZ.
- Altshuller Foundation site stopped updating in 2008, and TRIZ Journal stopped in 2020.
- **Let's create a website where excellent papers/articles on various TRIZ approaches come together to be published regularly.**
- We form Editorial Board (about 10 members) and Editorial Advisory (of about 100 members) through international cooperation.
- Original papers (new, unpublished, original results) will be published in existing sites (of conferences, journals, etc.).
- Our site will publish Overviews, Reviews, Lectures, etc. (results of newly established original work).

- We accept diverse approaches (e.g., Classical TRIZ, Engineering TRIZ, Simplified TRIZ, Modernized TRIZ, Extended TRIZ (Business, IT/Software, Bio, etc.), Reconfigured TRIZ, TRIZ combined with other methods, etc.).
- We post various categories (e.g., Academic papers on methods, Application/practice reports, Lectures on methods, Readings for students/children, News and announcements of activities, etc.)
- Triggered with the recommendations by Editorial Board/Advisory members, the Editorial Board invites authors to contribute, and publish the papers/articles after the process of peer review (with different evaluation criteria for each category). We publish monthly.
- For the stable operation, we need good Editorial/technical staff, Managers, and Income sources.
- We should work hard to build consensus in the global TRIZ community. WTSP will serve for the promotion of this Proposal.



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 !!