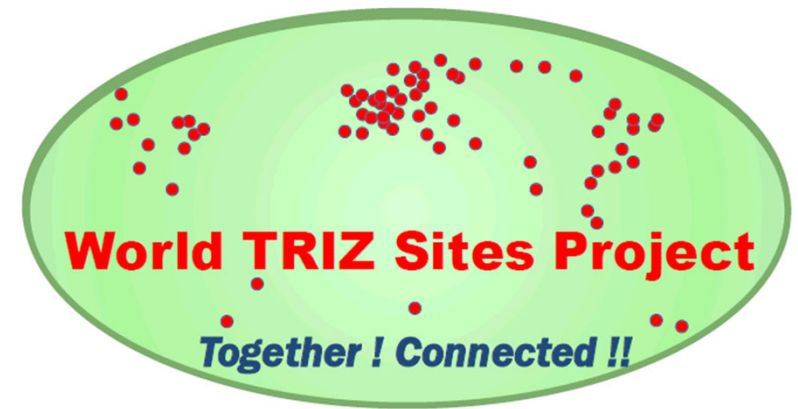
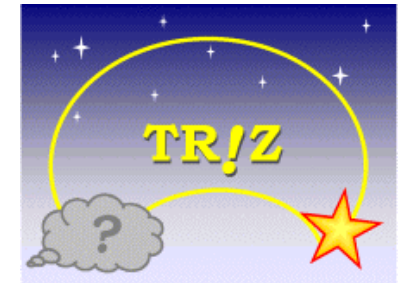


19th TRIZ Symposium in Japan 2023
Aug. 31 (Thu) - Sept. 1 (Fri), 2023
Online



**WTSP Report (6) Catalogs of TRIZ and Around-TRIZ Sites
in the World: Let's Enhance
the Japan WTSP Catalogs "Useful and Attractive"**



**Toru
NAKAGAWA
(Japan)**



**Darrell
MANN
(UK)**



**Michael
ORLOFF
(Germany)**



**Simon
DEWULF
(Australia)**



**Simon
LITVIN
(USA)**



**Valeri
SOUCHKOV
(Netherlands)**

Outline of Presentation

[1] Introduction: Vision and Basic Policy

Vision, Brief History, Website as the unit, Basic requirements for Catalogs, Evaluation Criteria of Websites, 5 grades

[2] Structure of the WTSP World Catalogs

Structure of the Top page (User's view), Structure of a sample page

[3] Development of World WTSP Catalogs: Process and Current Status

Develop process and documents, Building Around-TRIZ Catalogs, World Around—TRIZ Sites Catalogs, World WTSP Catalogs at present, World TRIZ Sites Catalogs, Source data of Beta edition, Japan WTSP Catalogs, Internet survey of 52 countries, 40 Countries, 12 Major countries, Most Important TRIZ sites,

[4] Difficulties in Development: Possible Causes, Our Policy and Appeal

Possible causes and our policy, Expected Values of World WTSP Catalogs, Who creates the Values? and How?, Standard form Site description, Close site introduction,

[5] Concluding Remarks: Summary and Appeal

Summary and appeal, Proposal of a New Website Representative in TRIZ

[1] Introduction: Vision and Basic Policy

[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.
- We have multiple interests in their theoretical bases, application methods, practices, case studies, promoting organizations, activities, etc.
- We use Websites as the units of information sources and create Catalogs of them.
- We collect good Websites in the world, evaluate them, categorize them, and introduce them in a fair and truthful manner.
- The Catalogs make 'Methods of achieving Innovations' clearer and widely known.
- The activities for creating the Catalogs will cultivate cooperative relationships among the people working in these relevant fields.

➔ Dec. 2017: Nakagawa proposed & started the voluntary WTSP Project.
2019: Preliminary Edition, 2020: Beta Edition completed.
Now: Preparing for Gamma Edition.

World WTSP Catalogs: Around-TRIZ Site: Completed; TRIZ Sites: Insufficient.

[1B] Merits of Websites and Requirements of Catalogs

Merits of Websites as Units of Information

- Websites publish the years/decades-long results obtained by an active entity.
- Easily accessible, open to public, for free/low of charge.
- Documents are written easy to understand, accumulated, categorized, and made up-to-date.
- Besides overall introductions, relevant primary information are accessible.
- Websites may have quite different purposes, natures, types, contents, etc.

Three Basic Requirements for Any Catalog from Users

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

Req. 2: Individual items should be introduced in a proper/fair manner briefly or closely in order 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.

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

Our Criteria of Website Evaluation

(Apply multiple aspects, to allow the diversity, respecting strong points.)

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

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

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

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

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

Symbol marks for showing the evaluation in 5 grades:

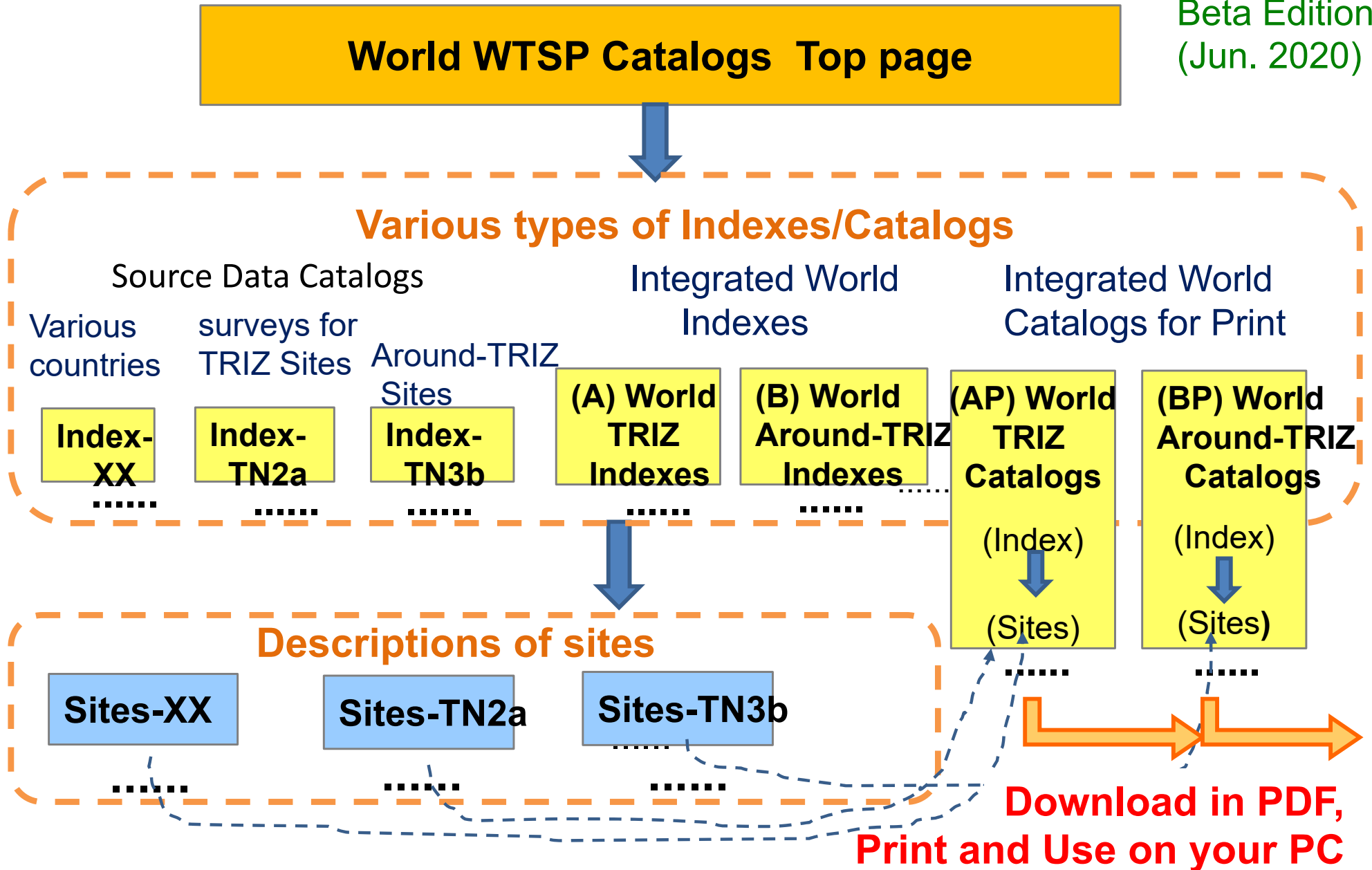
- ◎ **Most important (top about 30) in World Catalogs**
- **Important (next about 100) in World Catalogs**
- **Worthy in World Catalogs,**
- △ **Worthy in Country Catalogs,**
- **Insignificant/irrelevant.**

Evaluate websites even tentatively, then refine the evaluation later.

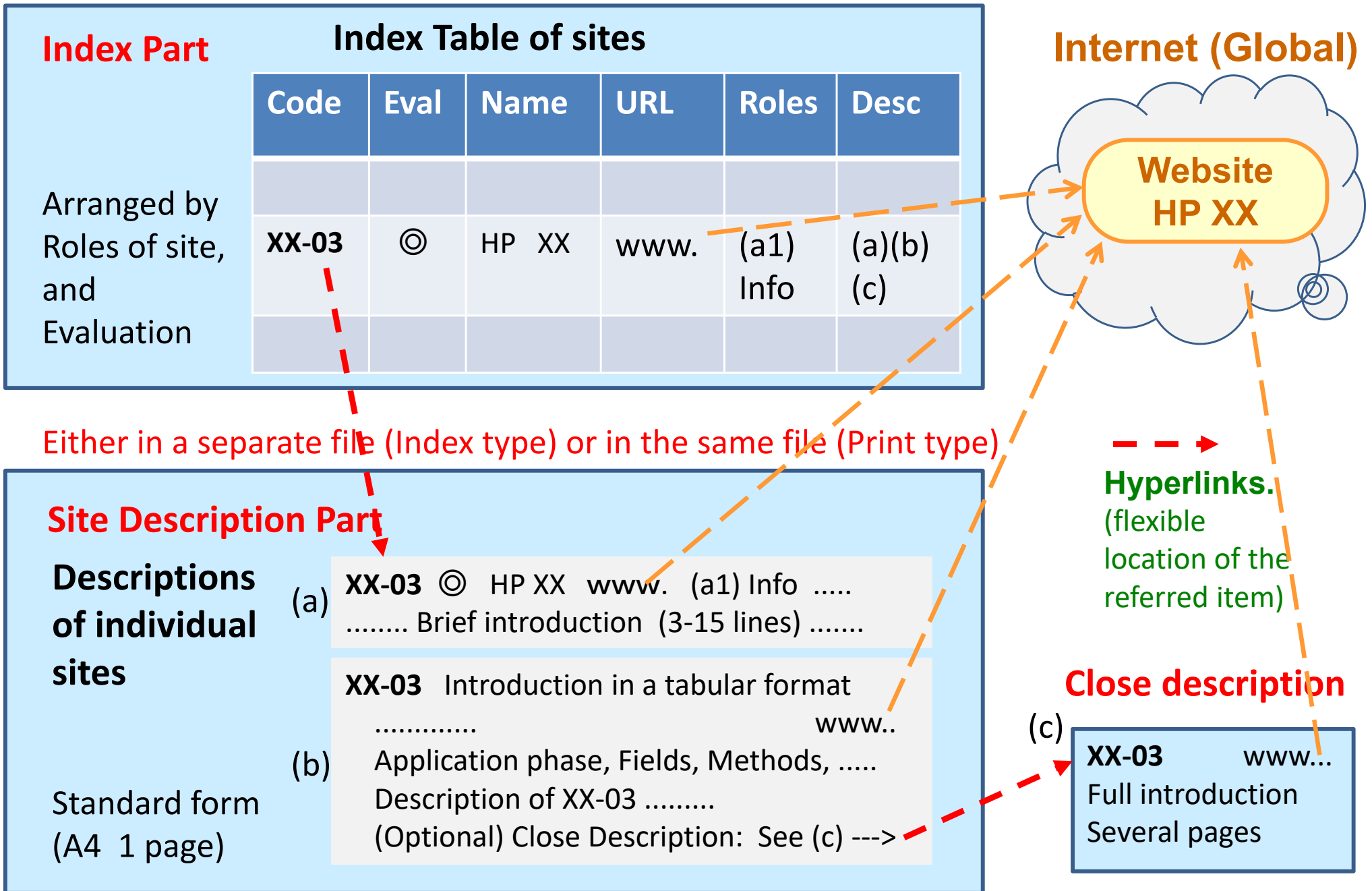
[2] Structure of the World WTSP Catalogs

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

Beta Edition
(Jun. 2020)



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



[3] Development of World WTSP Catalogs: Process and Current Status

[3A] Development Process and Documentation

(1)	Initial survey (in each country)	Internet Search + Recommendation (Listing of candidate sites) → Visit and study websites one by one → Basic information + Brief introduction (3 - 15 lines) + 5-grade evaluation (◎○□△—) + Roles of the site
(2)	Preparation of preliminary manuscript of each Country Catalog	Make a list of selected sites (◎○□△) → Request site owners to write introduction of their sites standard format (mandatory), detailed description (optional, free format) → Index file + Site description file → Submitt to the Project Leader
(3)	Finish the manuscript of Country Part of World Catalog (Project Leader)	Check manuscripts, coordinate with existing World Catalogs → Classify and display all sites Evaluation level (◎○□), Roles of site [data under development in the WTSP system].
(4)	Publish Country Part of World Catalogs	Publish and use as source data in the World WTSP Catalogs. Source data from various countries (◎○□), and to be referred in various World Catalogs
(5)	Integrate into the published World Catalogs	Integrate into the World WTSP Catalogs (incorporate into the index part, and into the site description part for printing)

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

'Around-TRIZ' means 'Creative Problem-Solving Methodologies in general'.

**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.

Nakagawa made 5 cases of Internet surveys with the keywords:

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 made brief introductions (about 5 - 15 lines).

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

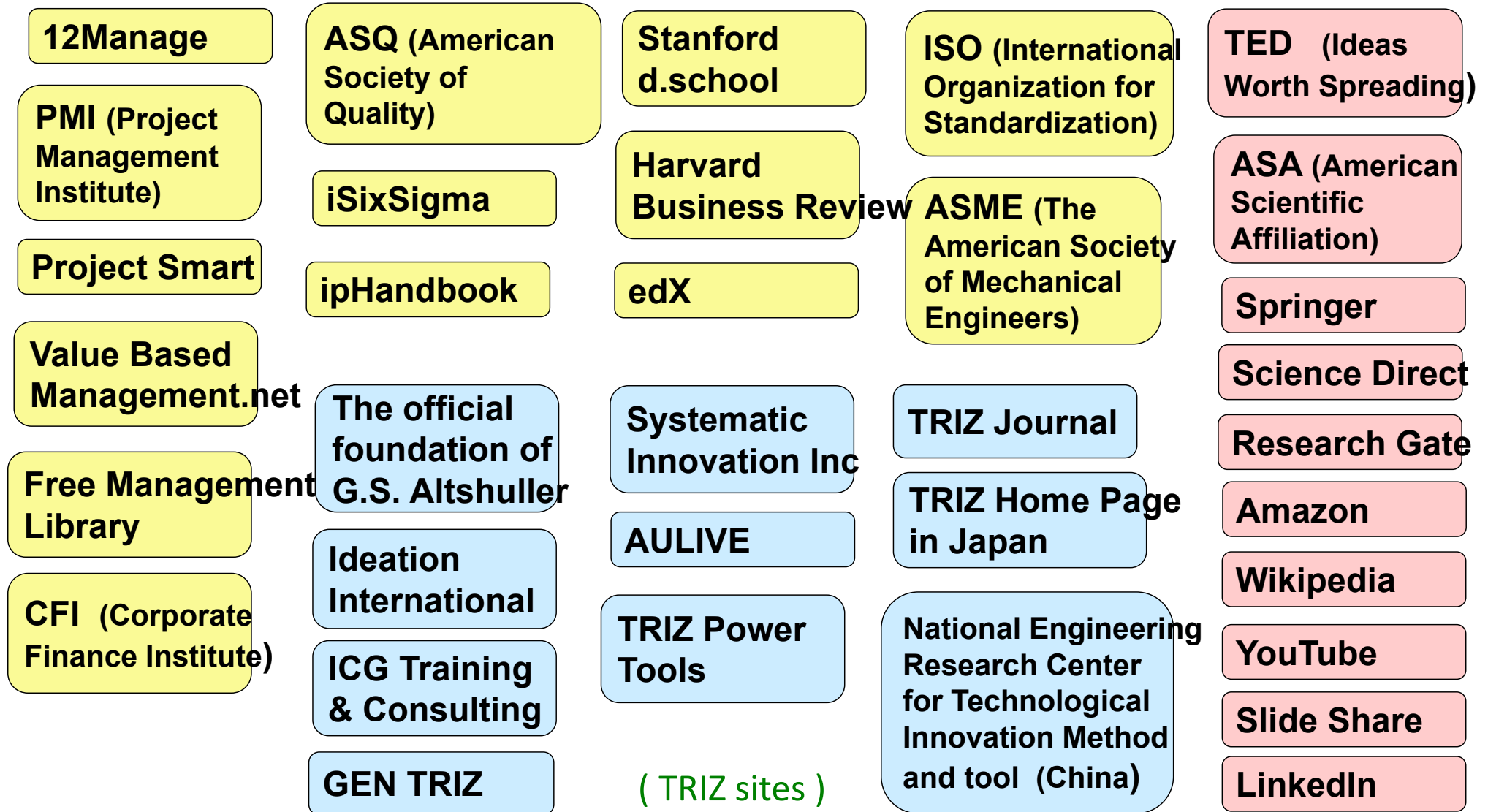
Extended Catalog (□) is newly built. (2022)

[3C] 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 obtained in Internet surveys.

[3D] 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

[3E] World WTSP Catalogue of TRIZ Sites: Development Status (1)

Source date for the Beta Edition (Fall 2020)

Current status (2023.7)

<p>Japan (Toru Nakagawa)</p>	<p>Internet search + addition (2018. 4. Jap./Engl), Improved (Japan Part) (2019. 7, Jap./Engl.) TRIZ: ⊙ 1, ○ 6, □ 5, △ 45 Around-TRIZ: ⊙ 0, ○ 1, □ 13, △ 20</p>	<p>Requesting updates to 33 people. No response</p>
<p>Malaysia (Eng Hoo Tan)</p>	<p>Malaysia Catalog (2019. 8) TRIZ: ⊙ 1, ○ 0, □ 4, △ 13</p>	<p>Updated manuscript (2023. 4) TRIZ: ⊙ 1, ○ 0, □ 4, △ 13</p>
<p>China (Run Hua Tan)</p>	<p>China Catalogue (2019. 8) TRIZ: ⊙ 1, ○ 1, □ 13, △ 0</p>	<p>Requesting updates: No response</p>
<p>Russian-speaking region (Michael Orloff)</p>	<p>Russian-speaking region catalog (2019. 9) TRIZ: ⊙ 10, ○ 15, □ 12, △ 0</p>	<p>Updated and Extended Manuscript (2020. 8) TRIZ: ⊙10, ○16, □29, □29</p>
<p>The World (T. Nakagawa)</p>	<p>Internet survey (English websites) (2019. 9) TRIZ: ⊙ 6, ○ 13, □ 29, △ 33</p>	
<p>USA (T. Nakagawa)</p>	<p>Internet survey (English websites) (2019. 7) TRIZ: ⊙ 6, ○ 11, □ 27, △ 24</p>	<p>Requesting updates: No response</p>

[3F] 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

 **5 years old. Need to update.**

[3G] Internet surveys of TRIZ sites in 52 countries in the world (1)

(Toru Nakagawa, May-Nov. 2021)

TRIZ sites in each country, English + national language, Yahoo Search Engine.
 Difficult due to Language barriers, helped with Google translator and DeepL.
 Visited all sites, wrote introduction, graded into 5 levels, (roles not found yet)

40 countries already investigated:

Region	Count	Det.	◎	○	□	△
A- Europe						
Austria	26				4	
Czech Rep.	24				4	1
Denmark	14					
Finland	21				4	1
Greece	8				1	1
Hungary	13					2
Iceland	11				1	
Netherlands	33			2	3	
Norway	4				1	1
Portugal	15	1			3	
Romania	9				2	1
Spain	27			1	2	4
Switzerland	21				6	

Re	Country	Det.	◎	○	□	△
C- MidEast						
	Iran	64		1	5	
	Israel	24			4	
	Turkey	27			4	5
D- Asia						
	Bangladesh	3				
	Hong Kong	16			1	4
	India	45			3	2
	Indonesia	37			3	5
	Pakistan	11			1	1
	Philippines	11				
	Singapore	15		1	2	2
	Vienam	24	1		6	3
E- Oceania						
	New Zealand	7			2	1

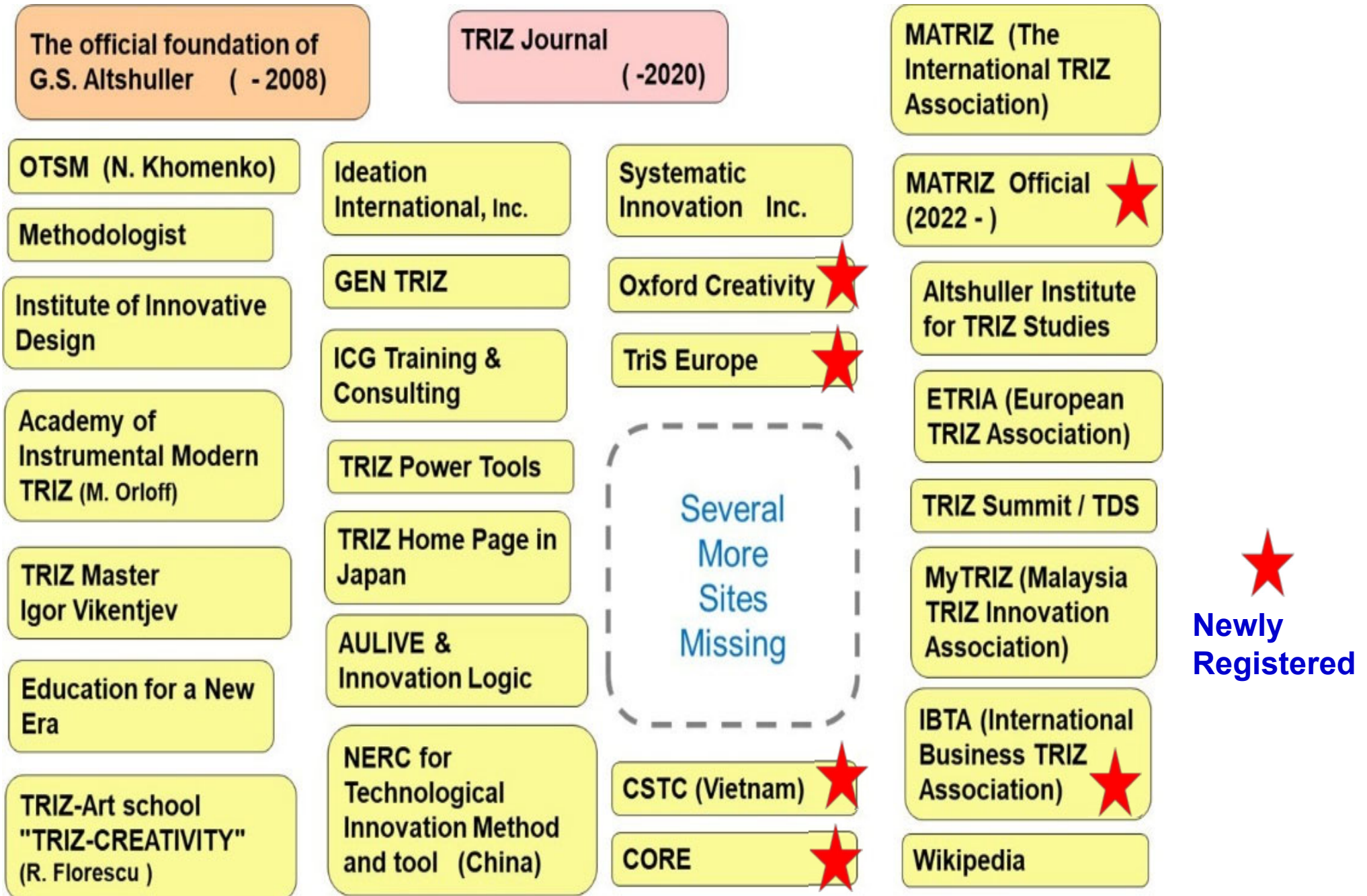
Re	Country	Det.	◎	○	□	△
F- N America						
	Canada	30		1		
G- CS America						
	Argentina	10			1	
	Bolivia	6				
	Brazil	41		1	6	1
	Chile	12			1	
	Colombia	19			1	1
	Costa Rica	12				3
	Mexico	23			4	
	Nicaragua	6				
	Peru	13			1	1
	Uruguay	7				1
H- Africa						
	Egypt	8			2	
	Kenya	6				2
	Morocco	13			4	3
	South Africa	9			3	3

[3H] (2) 12 Countries: Detected but not investigated (2021.11)

And their Current status

	2011.11		Lately, Current status (2023.7)	
Country	Det.	Inv.	Country Editor, Status	Manuscript , Number of websites
UK	39	no	Not assigned: Nakagawa Complete Manuscript (2022. 2)	TRIZ : ◎ 6, ○ 5, □ 10, △1 A-TRIZ : ◎ 4, ○16, □ 30, △3
Germany	68	no	Not assigned: Nakagawa Complete Manuscript (2022.12)	TRIZ : ◎ 5, ○ 6, □ 9, △3 A-TRIZ: ◎ 5, ○ 7, □ 18, △6
Belgium	22	no	Not assigned	
France	55	no	R. DeGuio, P. Sire : In preparation	
Italy	50	no	M. Speriafico : In preparation	
Poland	50	no	J. Majchrzak : In preparation	
Sweden	19	no	Not assigned	
Korea	72	no	M.G. Lee : Version 0.7 (2023. 2)	TRIZ : ◎ 3, ○ 1, □ 22, △1
Sri Lanka	6	no	Not assigned	
Taiwan	45	no	M.H. Sung : Preliminary (2023. 7)	TRIZ : ◎ 2, ○ 0, □ 5, △0
Thailand	31	no	T. Pheunghua : In preparation	
Australia	23	no	Not assigned	

[3I] World WTSP Catalogs of TRIZ Sites; Most Important Sites (©) (Tentative, 2023. Jul.)



[4] Difficulties in Development: Possible Causes, Our Policy and Appeal

[4A] Difficulties for WTSP: Possible Causes and Our Policy (1)

Difficulty: "Many TRIZ colleagues support the WTSP Project, but very few of them actually work to build the World WTSP Catalogs. In each country, difficult to get team leader, members, and cooperative site owners.

==> In many countries, WTSP teams are not working actively.

Cause (1) : Talented TRIZ people are too busy to do voluntary work for WTSP.

Our Policy: We work on a voluntary basis, since TRIZ has no unified worldwide organization.

We clearly show our vision, good prototypes, examples, and guidelines.

We divide the work into smaller pieces, to work in parallel and in cooperation.

We frequently publish our results, guides of development and usage, and appeals.

Cause (2): "The vision of World WTSP Catalogs looks too big to achieve."

Policy: We have already published prototypes of Country Catalog (e.g., Japan etc.),

World Catalogs of TRIZ Sites (Beta Edition), and of Around-TRIZ Sites.

Preparation processes and structure of the World WTSP Catalogs are clearly shown.

Cause (3): "I built my site well and open in public. No need to list it in WTSP Catalogs. "

Policy: WTSP Catalogs serve to make good websites widely known in the world.

With getting rich contents, the Catalogs will be more visible, reputed, and important.

The Catalogs will become the most important information source in TRIZ in the world.

[4B] Difficulties for WTSP: Possible Causes and Our Policy (2)

Cause (4): "Internet searches and Lists of links are good enough, without Catalogs."

Policy: Internet searches produce a flood of web pages with noise, missing good information.
Lists of links are small collection of implicitly selected websites, introduced only briefly.
Catalogs collect websites widely, evaluate, select, categorize, present, and introduce them in a fair manner.

Cause (5): "I don't like to write an introduction of my site, to be evaluated by others. I don't like to take the responsibility of evaluating other's sites as an Editor."

Policy: It is essential that the catalogs show websites after appropriate evaluation.
Our evaluation criteria use five aspects, allowing diversity, respecting strengths.
The evaluation is shown in 5 grades (◎○□△—); we do not try ranking.

Cause (6): "We can't get a Team Leader to build our Country WTSP Catalog."

Policy: The people who have profession/mission to develop, apply, and disseminate TRIZ should discuss, cooperate, and share the responsibility. Cooperation is important.

Cause (7): "Who uses the WTSP Catalogs? and How? What are the "Values" of Catalogs? Who creates ths "Values" and How?"

Policy: Clarification and recognition of the "Value" are fundamental to problem solving.
==> Next slide.

[4C] Expected "Values" of the World WTSP Catalogs of TRIZ Sites

Stakeholders	Possible "Values" to get
TRIZ Site Owners	You can introduce and promote your website. Brief introduction + Standard-format introduction (mandatory) + Attractive and sufficient introduction in free format (optional)
TRIZ Leaders / Experts / Practitioners	A complete overview of TRIZ-related Web sites around the world. Understand the development/progress of TRIZ and related methods. Learn the approaches of various TRIZ groups, and access to their primary information through references.
TRIZ. Practitioners / Users / Learners / beginners	Reliable information source for learning/studying TRIZ and related methods. Excellent and important websites are shown in categories. Get an overview of websites, and visit suitable sites to study and research. Initially, visit easy-to-understand sites in your home country and language; Later, visit excellent and comprehensible sites in and out of your home country.
TRIZ itself	The progress and development of TRIZ will be visualized. International and interdisciplinary collaborations are encouraged.

[4D] Who creates the "Values"? and How?

Individual Site owners will

Present their sites in an appropriate, clear, and attractive manner, to attract TRIZ learners/practitioners/experts to their sites.

They mainly create the "Attractiveness" of the WTSP Catalogs.

Collectively, TRIZ leaders/experts/practitioners will

Collect excellent sites, evaluate, select, categorize, and introduce them.

The work of editing and publishing creates the Values of the WTSP Catalogs.

They mainly create the "Usefulness" of the WTSP Catalogs.



TRIZ people should understand the "Values" of WTSP Catalogs, write site introductions, and contribute to the editorial work, by overcoming psychological barriers.

Use the World WTSP Catalogs of TRIZ and Around-TRIZ Sites already built and published for all of you !!

[4E] 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).

[4F] 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)

[5] Concluding Remarks: Summary and Appeal

[5A] Summary and Appeal (especially to Japan TRIZ Community)

(1) Japan & World WTSP Catalogs of TRIZ-related Sites are Published.

Let's learn various methods, knowledge, practices, and activities.

Expand our horizons to whole Japan, to the world, and to related fields.

The Catalogs are rich with well-selected, reliable, and attractive information.

(2) Please introduce your sites, in standard format and detailed free format.

You can fully present your ideas, methods, knowledge, practices, and activities.

The catalogs publicize your thoughts and activities; effective for your business.

(Please encourage site owners to write introductions to their sites.)

(3) Let's update the Japan WTSP Catalogs, after 5 years since 2018.

Let's visit all the sites in the Catalogs by turn, to update the brief introduction.

With Internet search, find new/related sites and introduce them.

Ask site owners of all the sites to write their site introductions.

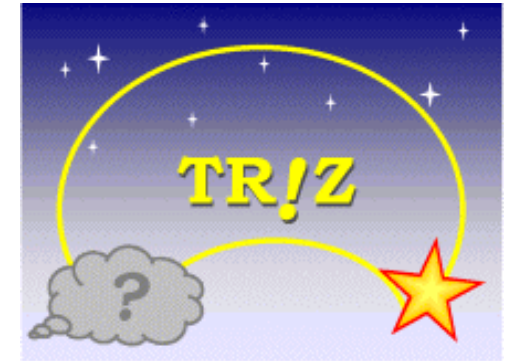
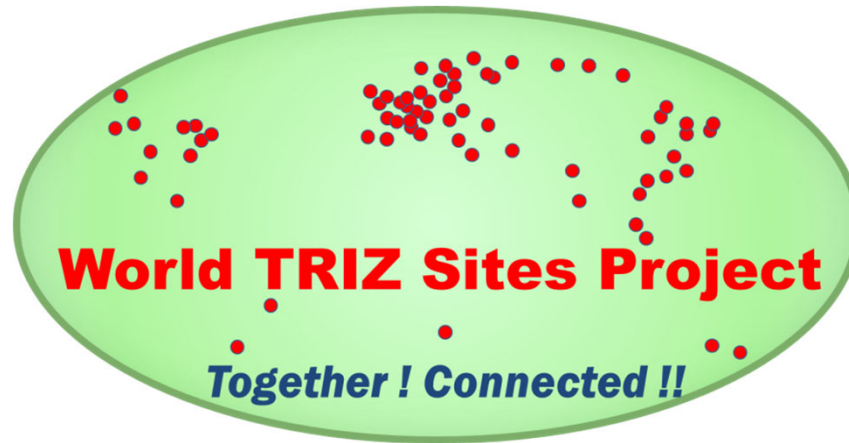
Encourage the Japan TRIZ Association to carry over the WTSP activities.

(4) Let's revitalize TRIZ in Japan and around the world

for the benefits of industry, education, society, and people.

[5B] Proposal: A new "Website representative in TRIZ (and related fields)"

- Many good TRIZ sites exist in divergent and competing situation; hence it is difficult to find overall view of TRIZ.
- The Altshuller Foundation ceased renewing in 2008, and TRIZ Journal in 2020.
- **Let's create a website where excellent papers/articles on various TRIZ approaches come together to be published.**
- Organize Editorial Board of 5+ members and ~100 advisors, internationally.
- Original papers (of new/unpublished results) will be left to existing sites/societies.
- **Review/overview articles and texts, etc. (results of newly established original work) will be presented here.**
- Deals with a variety of approaches (classical TRIZ, engineering TRIZ, simplified TRIZ, modernized TRIZ, extended TRIZ (business, IT/software, biotechnology, etc.), reconfigured TRIZ, integration with other methods, etc.).
- Deals with diverse categories (academic articles on methods, reports on application and practice, standard texts on methods, texts for students and children, news and activities, etc.)
- Contributions are invited by the editorial board upon recommendation of editorial board members/advisors and published after peer review (separate evaluation criteria for each category). Published monthly.
- Need editorial/technical staff, managers, and revenue sources for stable operations.
- **Let's form consensus in the global TRIZ community.**
For the time being, the WTSP Project will serve to promote the proposal.



Thank you for your attention.

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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 !!