



***What makes Korea
so enthusiastic about TRIZ?***

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KATA, Korea Academic TRIZ Association

About the author

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 - KATA = Korea Academic TRIZ Association
- CEO, an innovation consulting firm, eTRIZ (2012.03~current)
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What are you enthusiastic about?




Food



Sports



Travel

The background of the slide features a sunset sky with a bright sun low on the horizon. Silhouettes of four people are captured in mid-air, jumping joyfully with their arms raised. The overall mood is one of excitement and enthusiasm.

We're here
because we are enthusiastic
about TRIZ.

The background of the slide features a vibrant sunset with a bright sun low on the horizon, creating a warm orange and yellow glow. In the foreground, the dark silhouettes of four people are captured in mid-air, jumping joyfully. Their arms and legs are outstretched, conveying a sense of excitement and celebration. The overall mood is energetic and positive.

What makes Korea
so enthusiastic
about TRIZ?

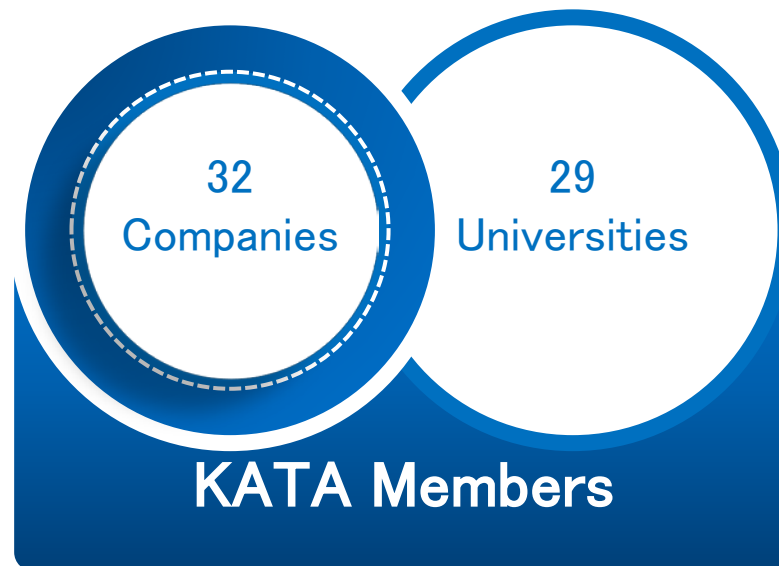


Enthusiasm of KATA



About KATA

- Korea Academic TRIZ Association
- Founded in May 2010
- Industry-Academia Knowledge sharing
- Contributor for industry competitiveness and Creative talent by TRIZ



Main Activities

2 Annual Conferences

International
Global TRIZ Conference
(Every July)

Domestic
Korea TRIZ Festival
(Every November)



TRIZ publications

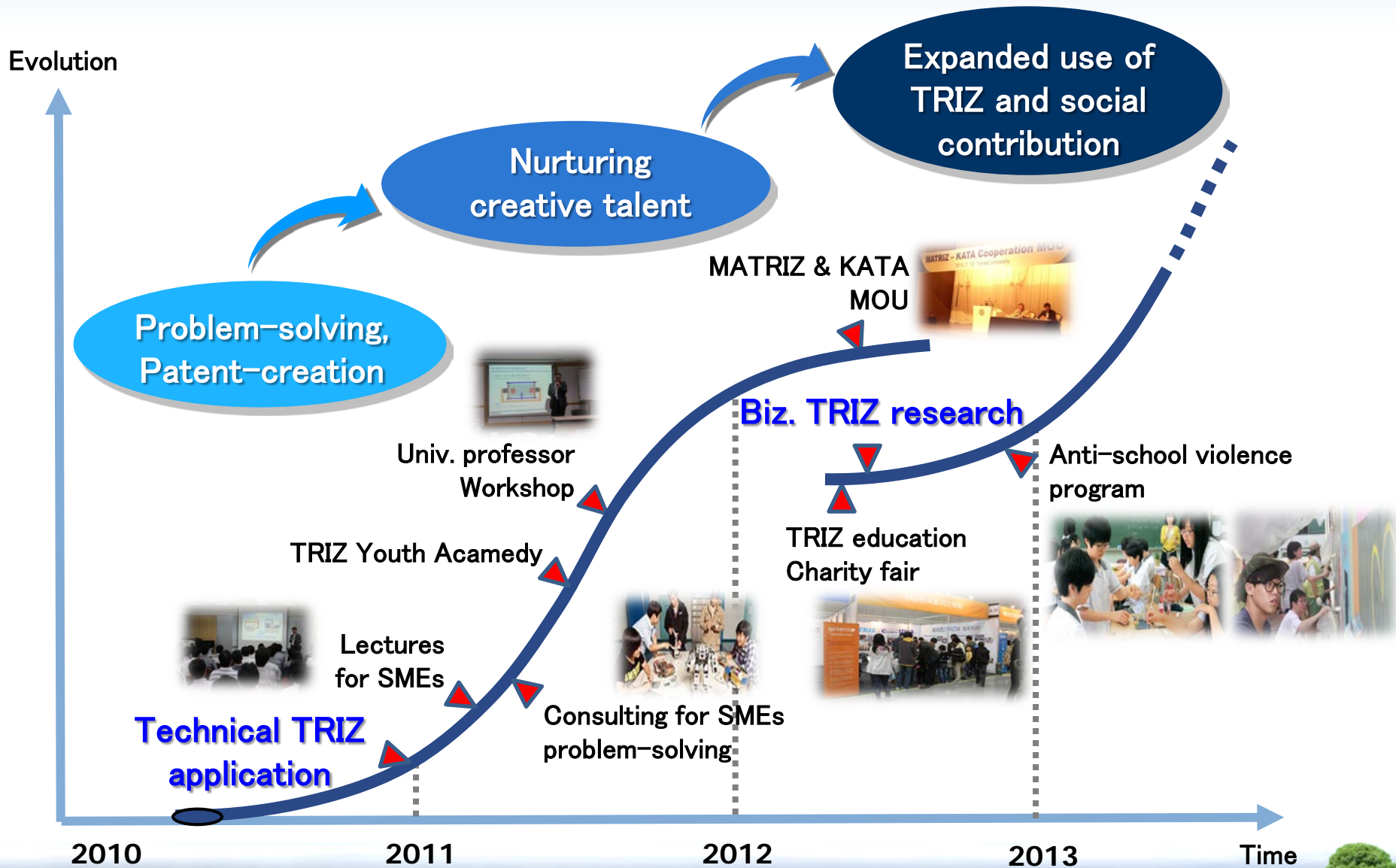
Journal of KATA
(Annual)



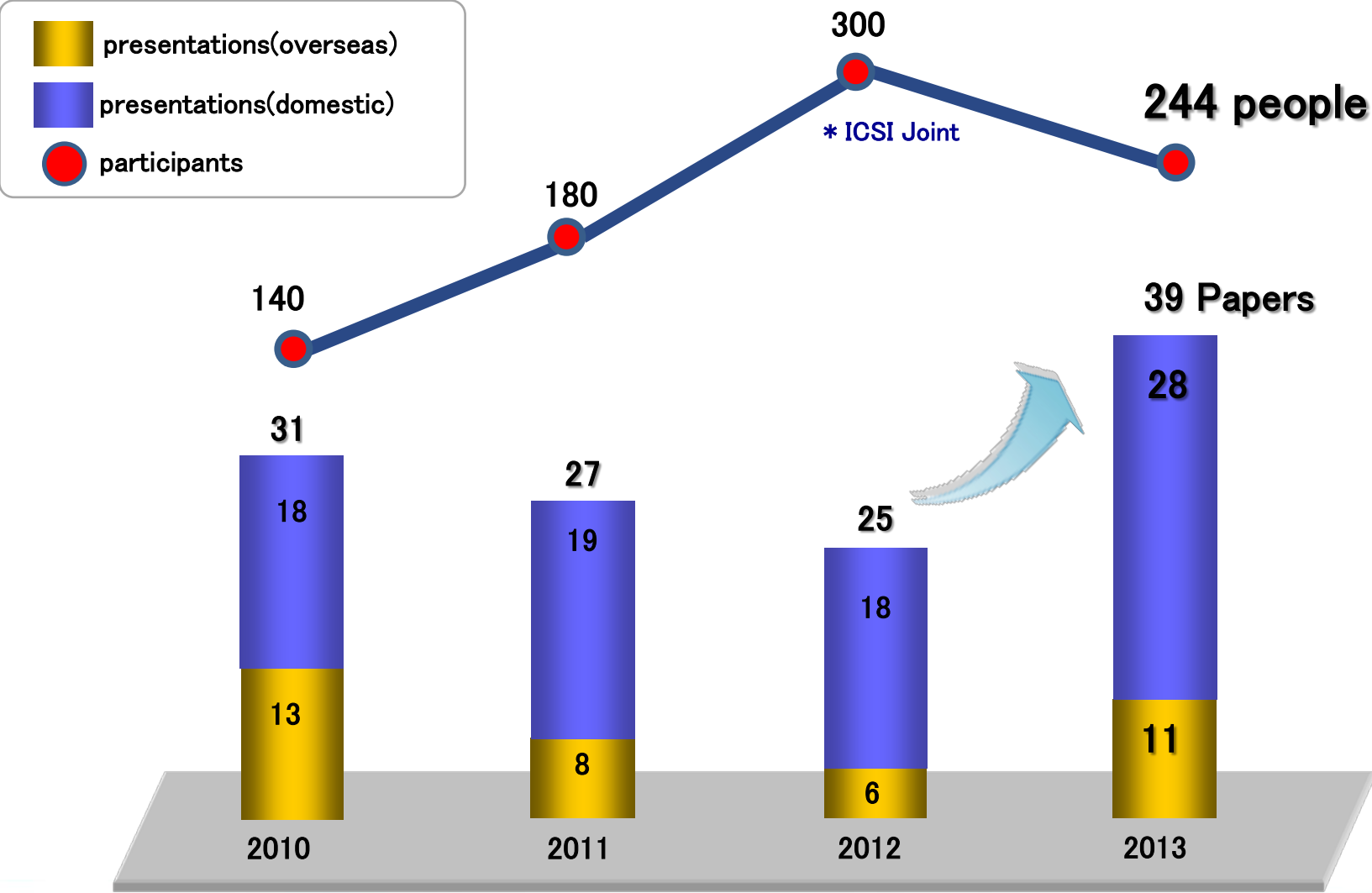
TRIZ news



Activity History



Growth of Global TRIZ Conference



GTC2013 program

Main Theme: Creative Thinking with TRIZ

■ Keynote Speakers



(美) Simon Litvin
(President of GEN3 Partners)



(英) Karen Gadd
(President of Oxford Creativity)



(日) Toru Nakagawa
(Professor of Osaka Gakuin Univ.)



(日) Makoto Takahashi
(President of Soken Research Institute)

■ Presentation of global best practices (39)

- Practical Session (16), Scientific Session(13), Education Session (10)

■ Tutorials

- Major directions of modern TRIZ development (Simon Litvin)
- Successful TRIZ with clear thinking and fun (Ms. Karen Gadd)





Enthusiasm of Korean Companies and Univ.

Secrets of Samsung's Innovation

Forbes

March 7, 2013



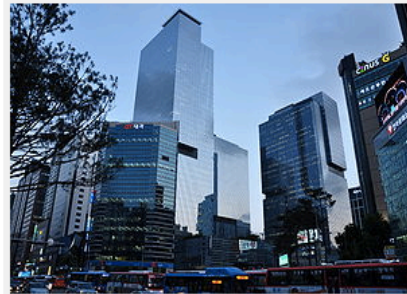
Haydn Shaughnessy, Contributor
I write about enterprise Innovation.

TECH | 3/07/2013 @ 6:32오전 | 35,443 views

What Makes Samsung Such An Innovative Company?

There are critics of [Samsung](#) who argue that its success is mostly due to copying and then tweaking the innovations of others. There is a good deal of truth in this, especially around the early Galaxy designs.

But Samsung is a global leader in screen technology, TVs, batteries, and chip design. So in terms of innovation it is doing a lot right. But we know very little about how.



The Samsung headquarters (Photo credit: Wikipedia)

- What TRIZ did for Samsung
 - Early success with TRIZ, saving over \$100 million.
 - Developed a creative elite using TRIZ
 - Fast follower → innovative leader
- Secrets of Innovation
 - Heavily invested in its people
 - Innovation culture based on
 - Extensive training
 - Repeatable methodology
 - Creative elite formation
 - The highest levels of management



Samsung Electronics

History

- 1998**
 - Firstly introduced ('98)
 - Organized TRIZ team ('01)
 - Invited Russian experts
 - Samsung TRIZ Association ('03)
- 2006**
 - Started Samsung TRIZ Conference ('06)
- 2010**
 - Accelerating propagation
 - Organized TRIZ Communities
 - Developed TRIZ S/W(I-Spark)
 - TRIZ Idea DB
- 2011**
 - Fostering TRIZ Pro
 - TRIZ Synergy Council (12~)

Application

- TRIZ Training program

	Program	~'12
Basic	• Online • 1 month	24,700
Level 1	• Basic tools • 1 week	3,963
Level 2 (Expert)	• Advanced • 2 weeks + work-site projects(5 months)	657
Level 3 (Pro)	• Strategic project • 10 weeks	67

- TRIZ projects & Patents

	Projects	Patents
2010	329	174
2011	380	142
2012	392	154

- Securing Core technology (42 %)
- Quality Improvement (41 %)
- Cost Reduction (9 %)

Features



Progressive propagation



Extensive Training
Project based Training



Developed TRIZ Project Roadmap

*Reference : J.Y.Lee, K. Baek, "TRIZ at Samsung Electronics", TRIZfest 2013 in Kiev, 2013



POSCO

History

- 2003** • Firstly introduced
- 2010** • Established TRIZ University (Feb. 1st 2010)
 - Starting presidential member of KATA (May 2010)
 - Produced the first non-Russian TRIZ master (Aug. 2010)
 - POSCO family TRIZ conference (Nov. 2010)
- 2012** • Annual TRIZ conference

Application

- TRIZ Training (2010)
 - ✧ 62 classes → 1,800 students in TRIZ University (3.4 times)

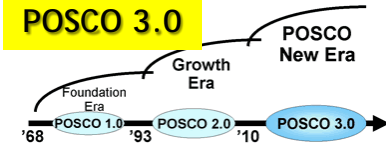
	Students	Instructors (L3)
2009	529	2
2010	1,800	10

- Business Performance of TRIZ

	Project s	Patents	Financial Performance (KRW)
2009	53	27	107 billion
2010	123	78	277 billion

- Innovation PJT (20 %)
- Independent PJT (72 %)
- Affiliates PJT (8 %)

Features

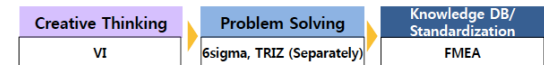


Go with company's strategy



TRIZ University

Extensive Training in TRIZ University



Unique working frame
PRIZM
POSCO TRIZ inside Methodology

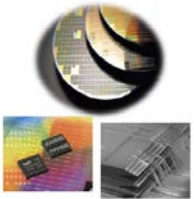
*Reference : Heechoon Lee, " The tool of POSCO's Creative Innovation, TRIZ", GTC2011 in Korea, 2011



SK Hynix

History

SK Hynix



- Semiconductor manufacturing company (24% worldwide market share in DRAM market)

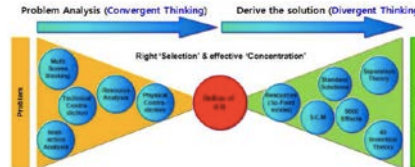
2008 • Firstly introduced

2010 • Diffusion

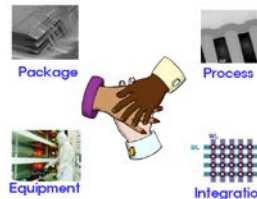
2011 • Settlement

Application

- Developed SK Hynix TRIZ Process
 - ✧ Composed with two categories based on ARIZ
 - ✧ Problem analysis with **convergence** thinking
 - ✧ Solution deriving with **divergent** thinking



- Multi-field TRIZ Project team
 - ✧ Team formation with members from various engineering areas



Features

- ✧ Focused on developing user-friendly method which is suitable for various engineering fields

Fun & easy TRIZ



Immersion room Intensive Workshop

Immersion Process

*Reference : Cho Jun Hee, "Practical TRIZ approach to semiconductor etching problem solving", TRIZfest in Kiev, 2013

Jeongho Shin, 'What makes Korea so enthusiastic about TRIZ?', The 9th TRIZ Symposium in Japan



TRIZ applications of Korean Companies

Problem-solving & Core patent creation

SAMSUNG

- Core tech & innovative product
- TRIZ Elite
- TRIZ research group

posco

- Foundation of TRIZ Univ.
- Development of POSCO methodology
- Internal TRIZ Conference

HYUNDAI

- Mixing DFSS & TRIZ
- Patent creation
- TRIZ research group

SK hynix

- Strategic R&D patent creation
- On-site TRIZ process designed to improve on-site work performance



TRIZ applications of Korean Universities

Teaching TRIZ for Creative Design



POSTECH

- Master course
- TRIZ projects



HANYANG

- Creative design
- Business management and engineering



YONSEI

- Creative engineering education
- Inter-discipline activities
- Engineering certification program



POLYTECHNIC

- Mechanical engineering
- KOREA/RUSSIA cooperation center

※ TRIZ application supported by the government and research institutions





Interview with TRIZ team leaders

Interview overview



- Telephone interview
- Interviewed 7 leaders of TRIZ team from 4 companies
- Date : Aug. 1st ~ 15th, 2013



posco



HYUNDAI



Major Interview Questions

Selected from 20 questions

What kinds of **obstacles** did you have on adopting TRIZ?

How could you **overcome** those obstacles?

What can be **major contributions** of TRIZ for the company?

Do you have any **advice** for the company who wants to adopt TRIZ?

1. Obstacles



We don't need another new tool any more.

We don't have TRIZ expert in the company.

We don't know how to convince our top manager.



We have too much burden of developing outcome.



We are so afraid of failure.

2. Overcoming Obstacles



Organizing
TRIZ Communities



Inviting TRIZ specialists
and having open lectures



Continuous reporting of
TRIZ outcomes



Combining TRIZ
with existing 6 sigma
process



Top-down approach

3. Contributions of TRIZ



- Bottleneck problem solving
- Securing core patents
- Strengthen conceptual design capabilities

- Culture for creative thinking
- More opportunities for more people
- Enhanced collaboration

- Fostering elite engineers
- Self-confidence of members in problem solving

4. Advices for newcomers in TRIZ

- Training & Application
 - Combine training with real business issues
 - Participate all the member in introductory seminar
 - You don't need to make them all TRIZ experts
 - Foster a few members selected as TRIZ experts
 - Try to get growing energy from the field side
- General
 - Use external experts and consulting firms well
 - Don't focus on developing Best practices
 - Quantity can make Quality
 - Select core members who have enthusiasm in TRIZ
 - TRIZ related S/W is not dispensable
 - Firstly focus on making innovative infrastructure, then TRIZ can do something



What makes Korea so enthusiastic about TRIZ?

Extensive
Training

Practical
application

Progressive
effort

Enthusiasm about TRIZ

NOTHING
GREAT
WAS EVER
ACHIEVED
WITHOUT
**ENTHU
SIASM**

(EMERSON)