

Four Days Workshop on MATRIZ certified TRIZ level 1 Workshop Organized by IPFACE, Venture Center and ProINN Consultancy	
LEARN	Learn the most successful structured Innovation methodology ever developed... TRIZ, originated in Russia and stands for "Theory of solving Inventive Problems" <ul style="list-style-type: none"> • Understand: <ul style="list-style-type: none"> ○ How to develop multiple wow product concepts ○ Ways to reduce product cost& harm ○ Increase system/ product efficiency • Engineers are hired to solve problems... Learn how to overcome psychological inertia and come with 40 unique ways of generating solutions at any given situation. • Inventive problem solving leads to inventive solutions... Understand ways to define and solve inventive problems • Learn to define & solve adoption problems from proven technologies to improve product performance • Companies like GE, Intel, Samsung, Hyundai, Honeywell, SABIC, Mahindra & Mahindra, P&G, LOUIS UVITTON, POSCO, Continental, ABB (to name a few) adopted this learning to bring predictability in Technical Innovation and came with wow products!
ORGANIZED BY	<ul style="list-style-type: none"> • IP Facilitation Center (IPFACE), Venture Center • ProINN Consultancy
FOR WHOM	<ul style="list-style-type: none"> • Inventors, Entrepreneurs, Corporate Strategists, Product Planners and Engineering Managers • Scientists, Technology / IP Managers, Patent Professionals, Innovation Officers, Manufacturing & Process industries Quality leaders
WHEN	Wed –Sat, 1 – 4 Feb 2017 Time: 9 am – 5.30 pm
WHERE	E-classroom, Venture Center, 100 NCL Innovation Park, Dr Homi Bhabha Road, Pashan Pune- 411008
ANCHOR FACULTY	Mr. Tito Kishan Vemuri, MATRIZ certified CEM representative with License #: 063/08-2017/1 to teach and certify
IP LEAD	Ashutosh Prachand Phone: +91-20-25865876 Email: ashutosh@ipface.org
CONTACT	Administrative queries: Ms. Lipika Biswas Phone: 020-25865875/77 Email: eventsdesk@venturecenter.co.in For technical queries: Mr. Tito Kishan Vemuri Contact no: +91 96864 99774 Email Id: Titokishan@proinnconsultancy.com
COST	Rs 45,000/- per participant ; Limited seats: 15 ; First come first serve Register online at: http://bit.ly/2idUvvy All details will be available on: www.ipface.org/workshops.php (Registration closes on 27 Jan 2017 Last date to make payment - 27 Jan 2017)
	Note:- <ul style="list-style-type: none"> • Fees paid is not refundable and non transferable under any circumstances. • Organizers reserve the right to accept or refuse or delay registrations so to optimize the composition of the group and hence maximize learning for all participants. • NDA's may be executed b/w sponsoring company and TRIZ trainer if technology problems brought to the workshop are of confidentiality nature

INTRODUCTION AND OBJECTIVE

A proven way of differentiating a product or a process is by patenting the concept/solution. There are few methods that can help in this pursuit... a proven systematic approach and many unstructured approaches (person dependent).

For example, Thomas Edison (World's greatest inventor) with help of his labs tried ~1000 experiments to invent improvised carbon filament and patented. Above great invention and many inventions in the past were developed by using trial and error methods at an expense of TIME. In the present competitive world where robust pipeline of new/enhanced product offerings is a need to increase the market share, can Corporates/MSME/Start-ups afford to use above approach (knowing the fact that people change jobs) and be confident to develop technology in a predictable time frame?

An example: It took about a century to build USS Nimitz carrier (99K tons warship) from USS North Carolina (16K tons) that was accomplished by solving many contradictory requirements (like: angle of decent vs. safe landing) through trial and error methods. Can the CENTURY long product development cycle be reduced to FEW YEARS? YES by addressing a critical challenge: to identify and solve contradictory requirements.

Humans inherently have biases in their thinking. One of the complimentary conditions that limit personal creativity is psychological inertia (PI)... Our idea generation follow habits cultivated or techniques worked earlier and thus limits our ability to think creatively. One way to overcome PI is to ignore your first solution and demand for a second one. This leads to another critical challenge: how to come with multiple WoW solutions that are simple and novel?

TRIZ, a Russian acronym for "Theory of Solving Inventive Problems" developed by Genrich Altshuller, a Russian inventor, addressed above critical challenges. Altshuller developed a systematic approach, once understood and followed will empower toolkit for everyone to invent.

Corporates like Samsung, General Electric, Proctor & Gamble, Intel, Hyundai, to name a few, have adopted this structured methodology in technology development and addressed above critical challenges with success.

Objectives:

- Enables to develop multiple concepts with low cost and high efficiency
- Facilitates WoW solutions from out of the domain through understanding functionality using FoS approach
- Enables to identify contradictions and helps to solve with win-win solutions and expand technology envelope
- Enriches system understanding and helps focused ideation leading to high quality idea generation
- Empowers to overcome psychological inertia through multiple ways – Out of box thinking at any situation
- Learn ways to use physical effects and come with multiple ways to solve a problem

For Corporates / MSME / Start-ups, TRIZ level 1 workshop helps in:

- More product offerings in shorter time – Adopting systematic approach across the organization helps in low idea to product ratio. A study shows it is about 3000:1 and varies from industry to industry.
- Greater employee satisfaction leading to employee retention and culture development – Increases the organization value as it empowers every employee to grow on value curve... from engineer to a better problem solver.

Note: All participants are requested to carry their own laptops for the workshop

ABOUT TRIZ

How it works: Functions are the founding blocks of any engineered product. The basic function of telephone didn't change since Graham Bell invented Telephone. TRIZ's systematic approach starts with understanding present value of an engineering system by clearly defining functions of each component, their interactions, identify harmful and insufficient functions that are either to be removed/improved. This effort establishes a blue print for identifying opportunities towards improvement of an existing engineering system. Then the goal is to identify key disadvantages that helps us to define contradictions.

Technical systems are complex and consist of inter-related parts. Changing one part of the system may introduce a negative effect on the system's other parts. In other words, an improvement in one part of a system that impairs other parts of the system, or to adjacent systems, creates a technical contradiction – and making an invention requires removing the technical contradictions. In other words, define an inventive problem by identifying a right contradiction that is holding the technology development.

By identifying and solving the right contradictions following the structured approach and by overcoming psychological inertia, everyone can come with solutions that are novel and patentable. Once a contradiction is identified, find relevant inventive principles and initiate ideation. In other words, we approach to get from task to contradiction, from contradiction to the method, and method to a solution. Then we can walk step-by-step from the problem statement to the answer.

Critical differentiator of TRIZ is its ability to help identify and solve contradictory requirements over other methods like Theory of constraints or Value engineering.

PROGRAMME OUTLINE

- Understanding basic concepts of systematic innovation using TRIZ methodology
- Learn structured problem solving:
 - Identify an engineering system that needs to be improved / developed / where harm has to be eliminated
 - Perform problem analytics that include: Functional modeling, cause effect chain analysis
 - Develop concepts: Trimming rules, Ideal final result and Resources, 9 Windows
 - Solve inventive problems: Function oriented search, contradiction matrix and Inventive principles

COURSE INCLUDES

- Actual Problem solving on a technology problem
- Problem scoping support before the workshop
- Free mentoring sessions (1 hour each) with the TRIZ Instructor through Skype to bring logical closure to problems started in the workshop:
 - ✓ >5 member team participation: 3 sessions
 - ✓ 3-4 members team participation: 2 sessions
 - ✓ 1 or 2 members participation 1 session
- Workshop Material
- Tea and lunch at Innovation Café
- TRIZ level 1 MATRIZ certificate (after 45 days) for those who successfully pass the test

***Please note, the participants will have to arrange for their own travel/local transport and accommodation and dinners.**

- For accommodation (standard and budgeted hotels) please visit: <http://www.venturecenter.co.in/puneguide/standard.php>
- For accommodation (deluxe and luxury hotels) please visit: <http://www.venturecenter.co.in/puneguide/deluxe.php>
- For local transport details visit: <http://www.venturecenter.co.in/puneguide/taxi.php>

ANCHOR FACULTY



Tito Kishan Vemuri

Mr. Kishan is a technology innovation coach. He is passionate about mentoring and facilitating technology innovations in India and beyond and groom inventors. He excels in mentoring inventors to grow their ideas into innovations and empower them to be either entrepreneur / intrapreneur.

Profile: Inventor and Technical Innovation mentor with strong technical expertise and experience in translating technical ideas into technology innovations. Experienced in developing Intellectual Property strategy across multiple product lines based on business strategy and translated strategy into action through Innovation workshops and mentoring. Demonstrated with a proven track record of facilitating “Close to thousand” inventions through Innovation workshops with some inventions incorporated in new products. Successful innovator track record with a granted patent and mentored ‘Hundreds’ of inventors and established a culture of Technical Innovation at world’s largest Power generation OEM’s India Engineering operations.

Education: M.Tech, NIT Suratkal

Certifications:

- Certified six sigma Master Black Belt by GE, USA
- Certified Design for Six Sigma Black belt by GE, USA
- Certified IP Analyst

Experience: 21 years of experience in IP Strategy development, Patent circumnavigation, Strategy execution, Robust Product design & development, Change leadership and Operational excellence – GE Aviation, GE Power & Water and TATA Consulting Engineers

Key accomplishments:

- One granted US patent
- Received GE management award for grooming talent in experiential teaching
- As a process improvement coach to an ASEAN airline, developed & executed bottom line improvement strategy and brought predictability in Airline operations through operational Excellence program and change management. Enabled significant \$xM approved
- Certified 100+ GB’s on DMAIC and DFSS

Teaching:

- Taught 600+ Greenbelts and 50+ Black belts in DMAIC & DFSS;
- Taught to 300+ engineers on TRIZ level 1
- Taught across Asia (India, Vietnam, Malaysia, Indonesia, Thailand, Singapore), Middle East (Dubai, Abu Dhabi) & South America (Chile)... to Indian / Multinational corporates and to Airline operators.

WORKSHOP SCHEDULE: DAY1			
Timing	Duration	Module title and description	Speakers
08.45-09.15	30 min	Registration	
09.15-09.30	15 min	Introduction to the workshop	Dr. Premnath
09.30-10.30	60 min	Module 1: Problem Analytics TRIZ Introduction Inventive thinking Hands-on activity	VTK
10.30-10.45	15 min	Tea break	
10.45-13.00	135 min	Engineering system definition Barriers to inventive thinking: Psychological inertia Problem definition Component analysis	VTK
13.00-14.00	60 min	Lunch	
14.00-15.00	60min	Engineering system understanding Interaction analysis Functional Modeling	VTK
15.00-15.15	15 min	Tea break	
15.15-17.30	135 min	Engineering system understanding cont'd Exercise Quiz – topics covered on day 1	VTK
WORKSHOP SCHEDULE: DAY2			
Timing	Duration	Module title and description	
09.00-09.30	30 min	Day 1 Recap	
09.30-10.30	60 min	Problem understanding Cause effect chain analysis Exercise	VTK
10.30-10.45	15 min	Tea break	
10.45-13.00	135 min	Module 2: Defining new problems Trimming Exercise	VTK
13.00-14.00	60 min	Lunch	
14.00-15.00	60min	Module 3: Problem solving strategies Product cost out strategy + Exercise	VTK
15.00-15.15	15 min	Tea break	
15.15-17.30	135 min	Ideality Ideal Final result; Ideality strategies; 9 windows & Resource analysis Quiz – topics covered on day 1 & 2	VTK
WORKSHOP SCHEDULE: DAY3			
Timing	Duration	Module title and description	

09.00-09.30	15 min	Day 2 Recap	
09.30-10.30	60 min	Understanding contradictory requirements 39 Engineering parameters Exercise	VTK
10.30-10.45	15 min	Tea break	
10.45-13.00	135 min	Problem solving strategies Efficiency increase strategy	VTK
13.00-14.00	60 min	Lunch	
14.00-15.00	60min	Solving contradictory requirements TRIZ Matrix, Engineering contradictions 40 Inventive Principles	VTK
15.00-15.15	15 min	Tea break	
15.15-17.30	135 min	Exercise Case study Product cycle reduction... from century to years Quiz – topics covered on days 1, 2 & 3	VTK

WORKSHOP SCHEDULE: DAY4

Timing	Duration	Module title and description	
09.00-09.30	30 min	Day 3 Recap	
09.30-10.30	60 min	Solving contradictory requirements <ul style="list-style-type: none"> • Technical contradictions • Exercise 	VTK
10.30-10.45	15 min	Tea break	
10.45-13.00	135 min	Solving contradictory requirements <ul style="list-style-type: none"> • Physical contradictions • Exercise 	VTK
13.00-14.00	60 min	Lunch	
14.00-15.00	60min	Quality IP <ul style="list-style-type: none"> • Smart Inventor 	VTK
15.00-15.15	15 min	Tea break	
15.15-17.30	120 min	MATRIZ TRIZ level 1 Exam	



ABOUT THE ORGANIZERS	
	<p>IPFACE aims to promote awareness and adoption of intellectual property rights amongst entrepreneurs and MSMEs in India while also making accessible high-quality IP services and resources. IPFACE is a project of the Venture Center supported by the Ministry of Micro, Small and Medium Enterprises, Government of India and National Chemical Laboratory, Council of Scientific and Industrial Research, India.</p> <p>For more information about IPFACE services, visit www.ipface.org</p>
	<p>Entrepreneurship Development Center (Venture Center) – a CSIR initiative – is a Section 25 company hosted by the National Chemical Laboratory, Pune. Venture Center strives to nucleate and nurture technology and knowledge-based enterprises by leveraging the scientific and engineering competencies of the institutions in the Pune region in India. The Venture Center is a technology business incubator supported by the Department of Science & Technology's National Science & Technology Entrepreneurship Development Board (DST-NSTEDB). Venture Center's focuses on technology enterprises offering products and services exploiting scientific expertise in the areas of materials, chemicals and biological sciences & engineering.</p> <p>For more information, visit http://www.venturecenter.co.in/</p>
	<p>ProInn Consultancy is into transforming organisations across the globe through knowledge enrichment and “Empowering everyone to invent” by imparting “Inventive Thinking” skillset. Deploys robust product development using Design for six-sigma methodology and bring inventions with robust design to improve both the top line and bottom line growth for organizations.</p> <p>With over 10 of its' clients being fortune 500 companies and many Indian MNC's, ProInn Consultancy is growing towards being an Technical Innovation partner where sustainable Innovations are a requirement in time bound R&D developments and challenging engineering problem solving.</p> <p>ProInn Consultancy in collaboration with Association for TRIZ and Technical Innovation (ATTI), a member of MATRIZ is promoting TRIZ to accelerate predictability in Technical Innovation in core engineering and R&D</p>