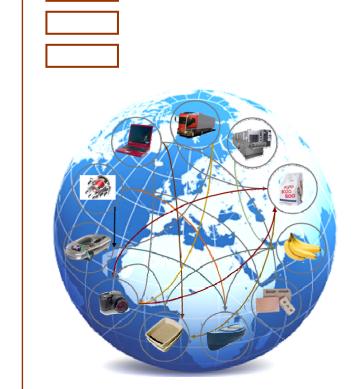
GEN3 PARTNERS



The How-to of Systematic Open Innovation

APPLIED DISCIPLINE

+

GLOBAL KNOWLEDGE

PREDICTABLE IMPACT

March 2011

GEN3 PARTNERS

GEN3 is the Open Innovation Services Provider –combining a systematic methodology and a global knowledge network of thousand of scientists and engineers, producing real innovation impact.

APPLIED GLOBAL PREDICTABLE IMPACT



Who is GEN3 Partners?

- An experienced group of world-class methodologists, scientists and engineers.
 GEN3 is the largest TRIZ-based innovation services provider in the world (both in terms of annual revenue and number of employees)
- Headquarter in Boston, Technology center in St. Petersburg, QM&E as Gen 3
 Partners Korea



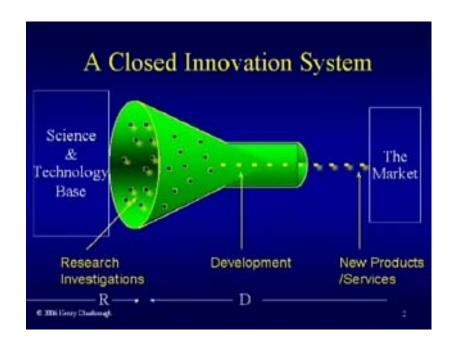
GEN3 Offices: Boston (Headquarters) • St. Petersburg, Russia

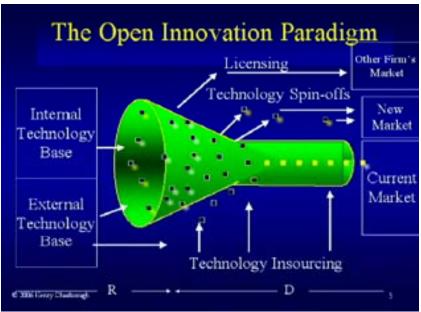
GEN3 Partners Korea



Era of Open Innovation

Open Innovation is moving more and more from an intriguing concept into proven operating practices as major companies develop and deploy this core capability into their innovation and R&D platforms.





Open Innovation is based on the idea that the R&D paradigm of doing everything in house has become obsolete in today's global market



Benefits of Systematic Open Innovation

 Open Innovators achieve <u>greater innovation impact</u> and <u>faster</u> <u>time-to-market</u> with <u>less risk</u> and <u>higher predictability</u>...



Here's how...

The Evolution of Open Innovation

The next evolutionary wave is systematic open innovation

KNOWLEDGE LEVERAGING

Open

Communication

Common person-

to-person

collaborations (for

example, between

R&D staff and

scientific

colleagues at a university)

Open Collaboration

What most companies do today: Work with a partner in their own industry (for example, a supplier) while protecting their own IP

Systematic Open Innovation

A scientific approach to open innovation execution that uses analytical tools to identify root causes of an innovation challenge and then finds functionally related practical solutions that can be adapted.

Crowd Sourcing

Early Open

Innovation

Identifying

existing

technologies that

fill a perceived

gap in a firm's

product offering,

IP, or technology

capabilities and

then seeking to

either license or

acquire this

technology.

Searches for possible existing solutions via internet "brokers"

TIME

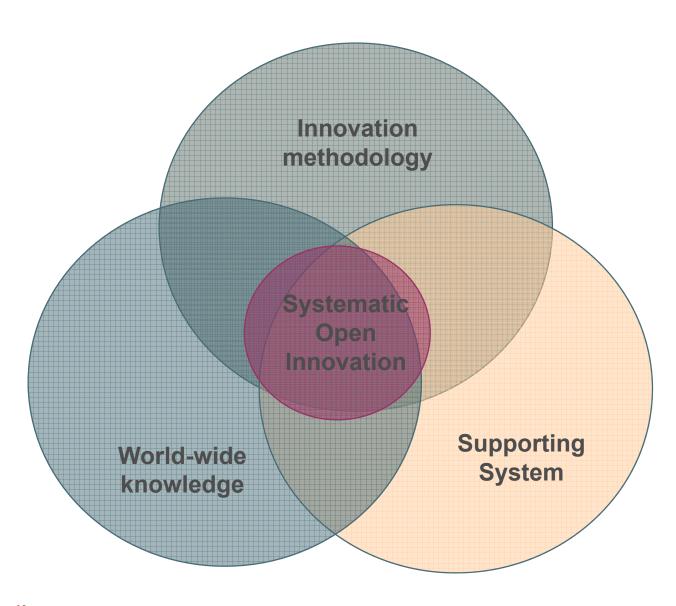


Ensures that any innovation opportunity or challenge is rigorously analyzed so the right problems are attacked from the beginning

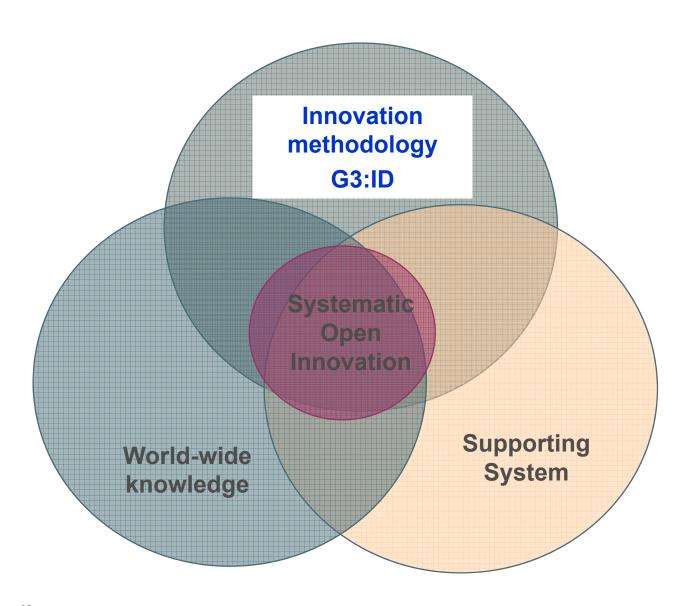
Systematic Open Innovation

Eliminates unproductive and lower value efforts and captures and adapts proven solutions from other industries

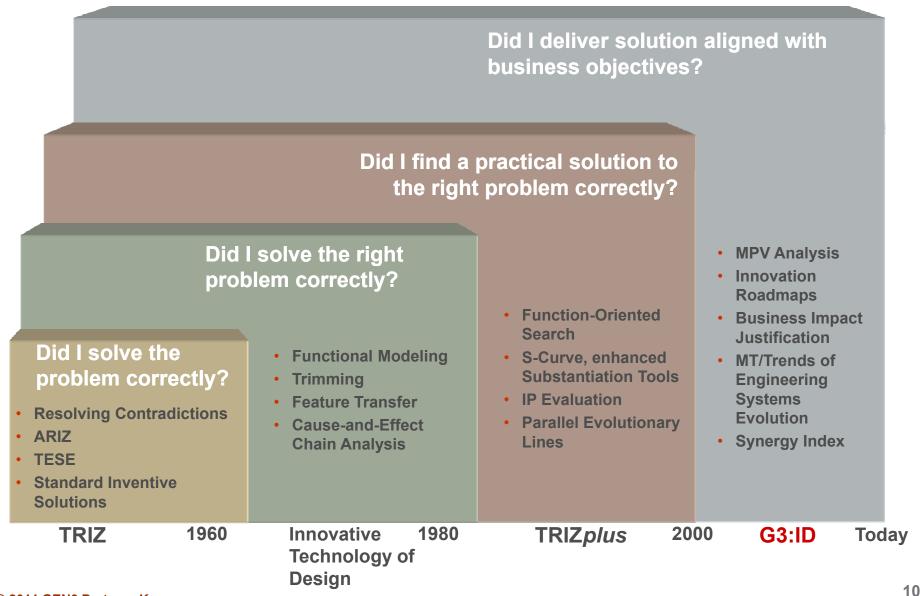
Results in securing critical IP, reducing risk and dramatically improving time to market



GEN3 Systematic Open Innovation-G3:ID



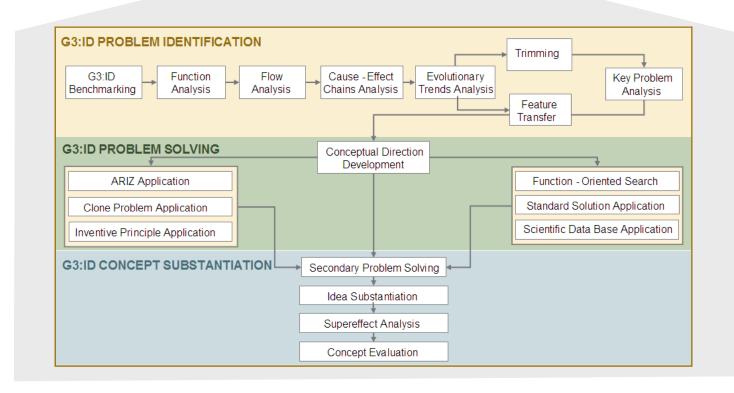
Evolution of Science of Innovation





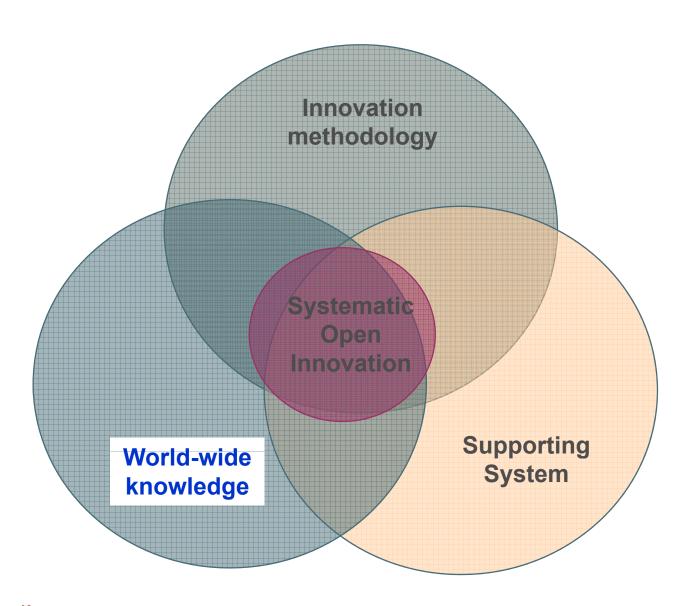
GEN3 Innovation Discipline(G3:ID) Process and Methodology

MPV Portfolio Analysis Problem Business Case Problem Concept Verification and **Determination and** and Innovation Identification Substantiation and IP Strategies Implementation Solving Agenda **Analysis**





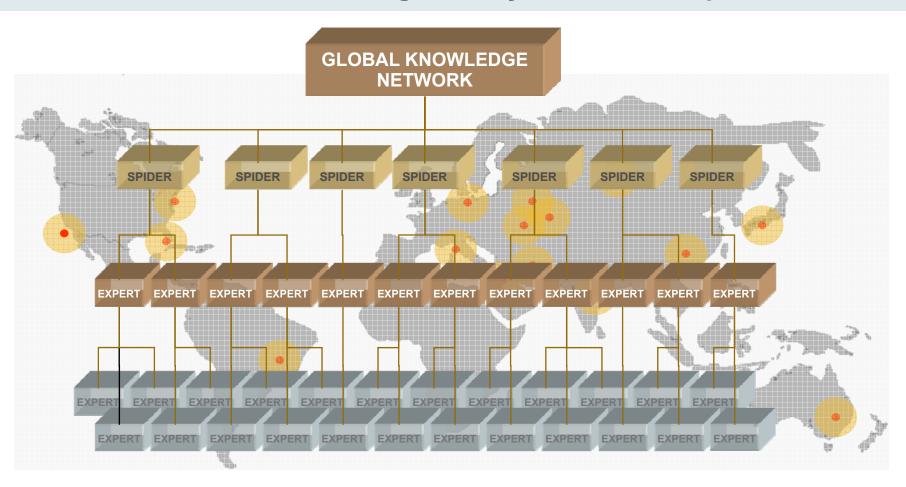
GEN3 Systematic Open Innovation-Global Knowledge Network



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GEN3's Global Knowledge Network: over 8,000 scientists and engineers around the world covering virtually all areas of expertise

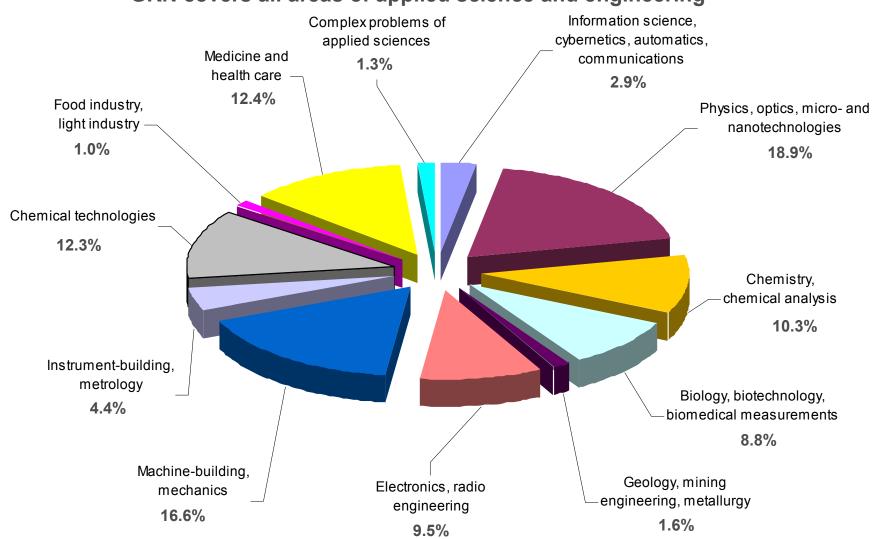




GEN3 Systematic Open Innovation-Global Knowledge Network

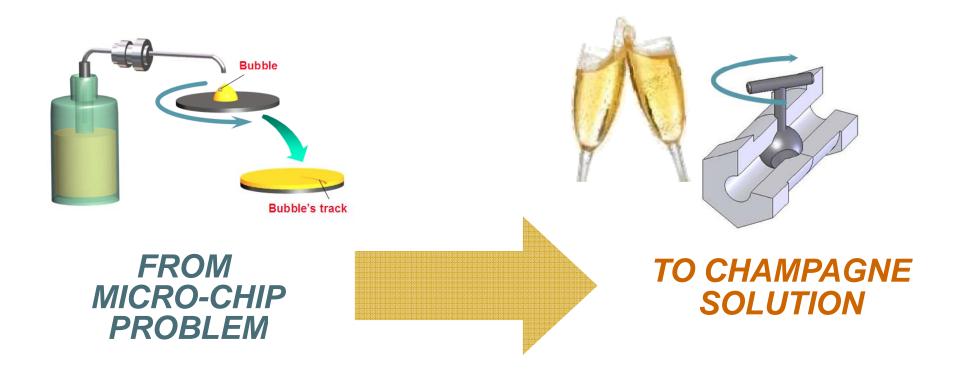
GKN: Distribution Of Experts By Branches Of Science And Engineering

GKN covers all areas of applied science and engineering





Adapt existing solutions, don't always invent



The benefits of systematically identifying and adapting <u>existing solutions</u> are huge, requiring less resources and providing greater speed-to-market

G3:ID —

G3:ID — Function-Oriented Search

- Innovation Challenge: Utilize global knowledge to achieve more effective innovation faster
- G3:ID tools that address this challenge: Function-Oriented Search (FOS),
 Global Knowledge Network (GKN).
- FOS and GKN Synopsis:
 - There are proven technologies somewhere in the world that can address your key problems
 - The Leading Area is an industry or scientific field in which similar functions have high importance
 - Functions are the "Esperanto" of science and engineering
 - Global knowledge, not global network



FOS & GKN Example : Allergy Prevention

Existing Technologies:



Anti-allergy medicines



Nasal ointments

All have some flaws:

- High breathing resistance
- Conspicuous
- Side effects
- IneffectiveExpensive



Nasal filters



Masks & respirators



FOS & GKN Example : Allergy prevention

Existing technologies all have some flaws

- Initial problem statement
 - How to prevent allergies?
- Identified Key Problem (Contradiction)
 - Pores of filter must be small to stop particles BUT big to allow easy breathing
- Functional translation
 - To trap pollen from inhaled air → To separate particles from a gas flow
- Identified best solution
 - Leading technology area: Industrial dust collectors, cement production
 - Best technology: Industrial cyclones. Action Principle: centrifugal separation
- Secondary Problem solving
 - Identified secondary problem: how to adapt the cyclone to the nostril?
- Solution: Healthy Breath filter (inserted into the nostrils)
 - Vortex chamber with spiral inlet geometry, sticky walls, breathing creates air flow
- Impact: 95% effectiveness for particles > 5µm, low breathing resistance, low cost
- IP protection US, EU, Japan, China

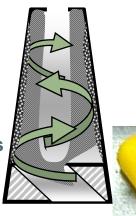






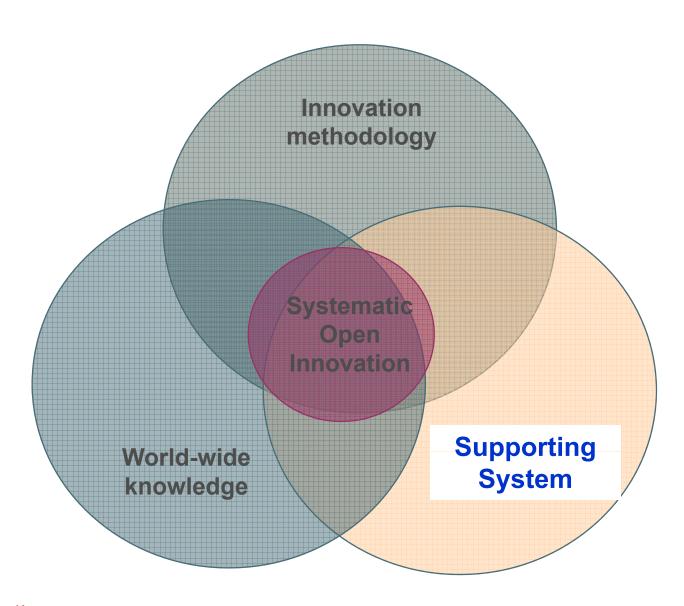








GEN3 Systematic Open Innovation-Supporting System



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- MPV and One Banana Please!
- GEN3 Partners Korea Case Study:
 - TRIZ application to Nano-material development for Biomedical Science
 - Non-technical Area