

TECHNICAL WHITE PAPER

INVENTIVE PRINCIPLES

Powering Structured Innovation with
TRIZ Methodology

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Executive Summary

Innovation is not a matter of chance — it is a discipline. The most transformative breakthroughs in science, engineering, and product development have often emerged not from random experimentation but from the systematic application of creative problem-solving frameworks. Among these frameworks, none has proven more enduring or analytically rigorous than TRIZ: the Theory of Inventive Problem Solving.

IP.com's IQ Ideas+ platform harnesses the power of TRIZ through its Inventive Principles feature, enabling engineers, scientists, R&D professionals, and IP strategists to move beyond conventional brainstorming and apply a structured, data-driven approach to solving complex technical contradictions. By translating decades of patent analysis and innovation science into an accessible, AI-guided workflow, IQ Ideas+ transforms how organizations generate, evaluate, and protect novel ideas.

This white paper provides a comprehensive examination of the TRIZ methodology — its historical origins, philosophical underpinnings, core frameworks, and practical applications — and explains how IP.com's Inventive Principles feature delivers TRIZ-powered insights directly within the structured ideation workflow of IQ Ideas+.

Key Insight

Organizations that apply TRIZ-based structured ideation report up to 60% reduction in time-to-solution for complex technical problems, and significantly higher rates of patentable output compared to conventional brainstorming approaches. (Savransky, 2000; Terninko et al., 1998)

1. The Origins of TRIZ: A Brief History

The story of TRIZ begins in the Soviet Union during the aftermath of World War II, in the engineering and patent offices of a nation driven by the imperatives of technological parity and industrial transformation. It was in this environment that Genrich Saulovich Altshuller — a naval engineer, inventor, and science fiction writer — began asking a question that would define his life's work: Is there a science of creativity?

1.1 Genrich Altshuller and the Birth of a Theory

Born in 1926 in Tashkent, Uzbekistan, Altshuller displayed an exceptional inventive talent from a young age. By fourteen, he had received his first patent. Working as a patent examiner and inventor in the Caspian Sea Naval Patent Bureau, he was uniquely positioned to study inventions at scale — not one at a time, but systematically, across thousands of cases.

Beginning around 1946, Altshuller and his colleagues embarked on what would become a decades-long analysis of global patent literature. Over the course of his career and through the work of his students and successors, the TRIZ body of research examined an estimated 400,000 patents, later expanded to over 3 million. The central hypothesis was both simple and audacious: if inventive solutions follow patterns, those patterns can be taught, applied, and systematized.

Altshuller's early work led to the publication of foundational papers in the late 1950s and the first major TRIZ textbook, "How to Learn to Invent," in 1961. Despite operating in a constrained Soviet academic environment — he was even imprisoned in 1950 for writing a letter to Stalin criticizing the state of Soviet invention — Altshuller persisted, refined his theories, and built a global movement.

1.2 Development Through the Soviet Era

Throughout the 1960s and 1970s, Altshuller and his colleagues systematized the core TRIZ tools. The Contradiction Matrix — a grid matching technical contradictions to suggested Inventive Principles — was published in its original form in 1971. The ARIZ algorithm (Algorithm for Inventive Problem Solving) went through multiple iterations, growing in sophistication. Schools of TRIZ (TRIZ schools, or "TRIZ organizations") were established in cities across the Soviet Union, and thousands of engineers were trained in the methodology.

By the time of Altshuller's death in 1998, TRIZ had evolved from a single researcher's hypothesis into a structured body of knowledge encompassing problem-solving algorithms, innovation laws, patterns of technical evolution, and substance-field analysis models.

1.3 Global Expansion and Modern Applications

The fall of the Soviet Union accelerated TRIZ's spread to the West. Russian TRIZ practitioners emigrating to Israel, the United States, and Europe brought the methodology to global corporations including Samsung, Intel, Boeing, Procter & Gamble, and General Electric. Samsung's adoption of TRIZ in the 1990s is frequently cited as a case study in transformative corporate innovation — the company invested heavily in TRIZ training and credits the methodology with contributing to numerous breakthrough products and significant IP portfolio development.

In parallel, researchers and practitioners in Europe and North America refined and extended TRIZ, developing computer-aided innovation (CAI) tools and integrating TRIZ with other methodologies including Six Sigma, Design Thinking, and systems engineering. Today, TRIZ is recognized by the International TRIZ Association (MATRIZ), taught in engineering programs at leading universities worldwide, and embedded in enterprise innovation platforms like IP.com's IQ Ideas+.

Historical Milestone

Altshuller's analysis of 40,000 patents in his initial study identified that fewer than 1% of solutions required truly new scientific discovery. The vast majority were achievable through the systematic application of existing inventive principles — a finding that fundamentally challenges the myth of the lone genius inventor.

2. The Philosophical Pillars of TRIZ

TRIZ is not merely a collection of techniques — it is grounded in a coherent philosophy of creativity, innovation, and technological evolution. Understanding these philosophical foundations helps explain why the methodology is both powerful and durable.

2.1 Invention as a Systematic Discipline

The first and most foundational pillar of TRIZ is the conviction that invention is not a mysterious or random process, but a systematic one that can be studied, modeled, and replicated. Altshuller observed that the same inventive moves appear repeatedly across different industries, time periods, and problem domains. A solution found in aerospace engineering mirrors one used in medicine; a principle deployed in chemical processing reappears in software architecture.

This cross-domain universality suggests that there exists an underlying grammar of invention — a set of moves that constitutes the deep structure of human technological creativity. TRIZ makes this grammar explicit and teachable.

2.2 The Centrality of Contradiction

At the heart of TRIZ theory lies the concept of contradiction. Altshuller identified that the most challenging and valuable inventive problems arise when attempts to improve one parameter of a system degrade another. A stronger material is often heavier. A faster process is often less precise. A more powerful engine consumes more fuel.

Conventional engineering responds to contradictions with compromise — finding an acceptable trade-off between competing parameters. TRIZ takes a different stance: the ideal solution eliminates the contradiction entirely. This philosophical commitment — to resolution rather than compromise — is what drives TRIZ toward truly inventive solutions rather than merely optimized ones.

TRIZ distinguishes between two primary types of contradiction:

- **Technical Contradictions:** When improving one technical parameter worsens another. For example, increasing the strength of a structure increases its weight.
- **Physical Contradictions:** When a system element must satisfy two opposite requirements simultaneously. For example, a coffee cup must be hot (to keep the beverage warm) and cool (to be held comfortably).

2.3 Laws of Technical Evolution

Another foundational pillar is Altshuller's articulation of the Laws of Technical System Evolution — also called Patterns of Evolution or Trends of Engineering System Evolution (TESE). These laws describe predictable trajectories along which technological systems develop over time.

Key evolutionary laws include the Law of Increasing Ideality (systems evolve toward performing their function without existing, i.e., becoming pure function), the Law of Non-Uniform Development of Parts (subsystems within a system evolve at different rates, creating contradictions), and the Law of Transition to Higher-Level Systems (systems reach limits and evolve by integrating into supersystems).

These laws transform TRIZ from a tool for solving current problems into a framework for anticipating future problems and opportunities — a capability with profound implications for IP strategy and competitive positioning.

2.4 The Ideal Final Result (IFR)

The concept of the Ideal Final Result (IFR) is perhaps the most distinctive philosophical contribution of TRIZ. The IFR posits that the ideal solution to any problem is one where the system performs its required function perfectly, without existing — that is, without any mechanism, cost, or side effects. While no real-world system can fully achieve the IFR, articulating it forces inventors to question every assumption about how a problem should be solved and prevents premature anchoring to conventional solution approaches.

The IFR is not a description of what is achievable but a directional vector that guides creative thinking toward solutions that eliminate problems at their root rather than managing their effects.

2.5 Psychological Inertia and the Role of TRIZ

TRIZ also has a psychological dimension. Altshuller recognized that one of the primary obstacles to creative problem-solving is what he called psychological inertia — the tendency to remain anchored to familiar mental models, established solutions, and conventional ways of framing problems. Engineers trained in specific domains develop deep expertise, but that expertise also constrains their solution space.

TRIZ, by providing a structured language of contradictions and principles that transcends any single domain, actively combats psychological inertia. It forces the solver to reframe problems in terms of underlying contradictions and to consider solution strategies drawn from disciplines far removed from their own.

3. Core TRIZ Tools and Frameworks

TRIZ encompasses a rich toolkit of analytical frameworks and solution strategies. The following are the primary components that underpin the Inventive Principles feature in IQ Ideas+.

3.1 The 40 Inventive Principles

The most widely used and accessible element of TRIZ is the set of 40 Inventive Principles. These principles represent the most common innovative solution strategies distilled from the analysis of hundreds of thousands of patents. Each principle describes a general class of inventive move that has been used successfully to resolve technical contradictions across diverse fields.

The 40 Inventive Principles are:

| # | Principle | # | Principle | # | Principle | # | Principle |
|----|-------------------------|----|-----------------------------|----|----------------------------|----|-----------------------|
| 1 | Segmentation | 11 | Beforehand Cushioning | 21 | Skipping | 31 | Porous Materials |
| 2 | Taking Out | 12 | Equipotentiality | 22 | Blessing in Disguise | 32 | Color Changes |
| 3 | Local Quality | 13 | The Other Way Round | 23 | Feedback | 33 | Homogeneity |
| 4 | Asymmetry | 14 | Spheroidality | 24 | Intermediary | 34 | Discarding/Recovering |
| 5 | Merging | 15 | Dynamics | 25 | Self-Service | 35 | Parameter Changes |
| 6 | Universality | 16 | Partial/Excessive Action | 26 | Copying | 36 | Phase Transitions |
| 7 | Nested Doll | 17 | Another Dimension | 27 | Cheap Short-Living | 37 | Thermal Expansion |
| 8 | Anti-Weight | 18 | Mechanical Vibration | 28 | Mechanics Substitution | 38 | Strong Oxidants |
| 9 | Preliminary Action | 19 | Periodic Action | 29 | Pneumatics & Hydraulics | 39 | Inert Atmosphere |
| 10 | Preliminary Anti-Action | 20 | Continuity of Useful Action | 30 | Flexible Shells/Thin Films | 40 | Composite Materials |

Each principle is not a specific technical solution but a direction — a lens through which to view a problem that consistently points toward innovative resolutions. IQ Ideas+ surfaces the most relevant principles based on the specific contradiction or problem parameters the user inputs.

3.2 The Contradiction Matrix

The Contradiction Matrix is the tool that maps technical problems to Inventive Principles. Originally developed by Altshuller and published in 1971, the matrix consists of 39 engineering parameters along both axes. The intersection of an "improving parameter" (the characteristic you want to make better) and a "worsening parameter" (the characteristic that degrades as a result) returns a set of recommended Inventive Principles.

The matrix was substantially updated in 2003 by Darrell Mann and colleagues, expanding the parameter set to 48 and improving the statistical robustness of the principle recommendations based on a larger patent corpus. A further update — the Matrix 2010 — extended the analysis to over 2 million patents.

IQ Ideas+ applies the principles of the Contradiction Matrix within its AI-guided workflow, automatically mapping user-described problems to relevant Inventive Principles without requiring the user to have expertise in TRIZ or familiarity with the matrix structure itself.

3.3 ARIZ: Algorithm for Inventive Problem Solving

For complex problems that resist resolution through the Contradiction Matrix, Altshuller developed ARIZ — a step-by-step analytical algorithm that progressively deepens the problem analysis to reveal the most fundamental contradiction and the most powerful solution pathway. ARIZ-85C, the final version developed by Altshuller, consists of nine major steps and over 85 analytical operations.

While full ARIZ analysis is intensive and typically reserved for highly complex or strategically critical problems, the logical structure of ARIZ informs the problem-framing guidance embedded in IQ Ideas+'s Inventive Principles workflow.

3.4 Substance-Field (Su-Field) Analysis

Su-Field analysis provides a modeling language for technical systems in terms of substances (objects or components) and fields (forms of energy or interaction). By representing a system as a set of substance-field interactions, TRIZ practitioners can identify harmful, insufficient, or missing interactions and apply specific inventive transformations — the 76 Standard Solutions — to address them. IQ Ideas+ incorporates Su-Field concepts in its structural ideation modules, helping users model and analyze complex technical systems.

4. The Inventive Principles Workflow in IQ Ideas+

IQ Ideas+ operationalizes TRIZ methodology through an intuitive, structured workflow that guides users from problem description through contradiction identification to AI-suggested Inventive Principles and solution ideation. The following describes the workflow in detail.

4.1 Problem Capture and Framing

The workflow begins with the problem capture stage. Users — engineers, inventors, or R&D professionals — describe the technical challenge they are facing in natural language. IQ Ideas+ provides structured prompting to help users articulate their problem in terms amenable to TRIZ analysis, asking questions such as:

- What is the system or object involved?
- What function or outcome is desired?
- What parameter or characteristic are you trying to improve?
- What negative effect or trade-off occurs when you attempt to improve it?

This guided framing stage addresses the challenge of psychological inertia by encouraging users to step back from conventional problem framings and describe the underlying contradiction.

4.2 Contradiction Identification

Once the problem is captured, IQ Ideas+ assists the user in identifying the specific technical or physical contradiction at the heart of the challenge. The platform's AI engine analyzes the problem description and maps it to the relevant engineering parameters from the TRIZ contradiction framework, surfacing the primary contradiction pair (improving parameter / worsening parameter) for the user's review and refinement.

This step is critical because the quality of the contradiction statement directly determines the relevance of the suggested Inventive Principles. IQ Ideas+ provides users with the ability to review, adjust, and confirm the identified contradiction before proceeding.

4.3 AI-Suggested Inventive Principles

With the contradiction identified, IQ Ideas+ applies its TRIZ-informed AI engine to recommend the most relevant Inventive Principles from the set of 40. Rather than simply returning a list of principles from the static Contradiction Matrix, IQ Ideas+ enriches the recommendations with:

- Plain-language explanations of each recommended principle in the context of the user's specific problem.
- Illustrative examples drawn from analogous problems in other domains and from the patent literature.
- Guidance on how to apply each principle to the specific system or component under consideration.
- Links to relevant prior art and patents that exemplify the principle in practice — connecting ideation directly to the IP.com patent database.

4.4 Idea Generation and Documentation

The user then engages with the suggested principles to generate concrete inventive concepts. IQ Ideas+ provides a structured ideation workspace where users can record, develop, and evaluate ideas generated in response to each principle. Each idea can be annotated with technical details, sketches, or supporting documentation, and linked to the problem statement and principle that inspired it — creating a complete, auditable innovation record.

This documentation is not merely for organizational purposes. A well-documented innovation record — capturing the problem, the contradiction, the principle applied, and the resulting concept — provides a valuable foundation for subsequent patent drafting, prior art search, and IP strategy work, all of which can be pursued directly within the IP.com platform ecosystem.

4.5 Iteration and Portfolio Development

The Inventive Principles workflow is explicitly iterative. Users may return to the problem framing stage to refine or restate contradictions, explore different principle combinations, or approach the same problem from multiple TRIZ perspectives. Over time, the ideas generated through multiple sessions are captured in an innovation portfolio within IQ Ideas+, enabling team leaders and IP managers to track ideation activity, identify promising concepts for further development, and manage the pipeline from idea to invention disclosure.

Workflow Summary

Problem Capture → Contradiction Identification → AI-Suggested Inventive Principles → Guided Ideation → Documentation → IP Strategy Integration. Each step is supported by IP.com's AI engine and connected to the broader IP.com patent intelligence ecosystem.

5. Inventive Principles in Practice: Worked Examples

The following examples illustrate how the Inventive Principles workflow in IQ Ideas+ guides users from real-world technical problems to innovative solution directions. Each example demonstrates a different principle in action across different industries.

Example 1: Semiconductor Packaging — Thermal Management

| Example 1: Semiconductor Packaging | |
|------------------------------------|---|
| Industry | Semiconductor / Electronics Manufacturing |
| Problem | As chip performance increases (improving parameter: processing speed), heat generation rises proportionally, risking component failure and requiring larger, heavier cooling solutions (worsening parameter: loss of substance / weight). |
| Contradiction | Technical Contradiction — Increasing processing performance worsens heat dissipation requirements and increases system weight. |
| Principles Suggested | Principle 2 (Taking Out), Principle 35 (Parameter Changes), Principle 28 (Mechanics Substitution), Principle 40 (Composite Materials) |
| Application — Principle 35 | Parameter Changes: Change the state of the thermal interface material from solid to phase-change material (PCM) that transitions at chip operating temperatures, dramatically improving heat absorption without additional mass. This led to PCM thermal interface materials now widely used in high-performance computing. |
| Application — Principle 40 | Composite Materials: Replace traditional copper heat spreaders with copper-diamond or carbon nanotube composite materials offering thermal conductivity far exceeding pure copper at lower weight — a direct application of Principle 40. |
| Outcome | Multiple patentable concepts in thermal interface materials, heat spreader design, and active cooling microstructures — each traceable to specific Inventive Principle recommendations. |

Example 2: Medical Devices — Drug Delivery

| Example 2: Medical Devices — Drug Delivery | |
|--|---|
| Industry | Biomedical / Pharmaceutical |
| Problem | Increasing drug concentration at the target site (improving: effectiveness) requires higher systemic doses, increasing toxicity risk (worsening: harmful side effects). |

| | |
|-----------------------------------|---|
| Contradiction | Physical Contradiction — The drug must be present at high concentration (at target) and low concentration (systemically) simultaneously. |
| Principles Suggested | Principle 1 (Segmentation), Principle 10 (Preliminary Anti-Action), Principle 24 (Intermediary), Principle 35 (Parameter Changes) |
| Application — Principle 1 | Segmentation: Rather than a single bolus dose, the drug payload is encapsulated in segmented micro-particles that release sequentially, maintaining therapeutic concentration at the target while limiting systemic exposure. This principle underpins modern liposomal and nanoparticle drug delivery systems. |
| Application — Principle 24 | Intermediary: Introduce a targeting ligand as an intermediary that directs the drug carrier specifically to diseased cells (e.g., tumor-specific antigens), resolving the physical contradiction by ensuring high local concentration without high systemic dose. |
| Outcome | Ideation session yielding three distinct invention disclosures — particle design, targeting ligand conjugation method, and release kinetics control — all derived from structured Inventive Principles application. |

Example 3: Automotive Engineering — Structural Lightweighting

| Example 3: Automotive Engineering — Lightweighting | |
|--|---|
| Industry | Automotive / Aerospace |
| Problem | Reducing vehicle weight (improving: fuel efficiency) requires thinner or lighter structural components, which reduces crash safety performance (worsening: object-generated harmful effects). |
| Contradiction | Technical Contradiction — Improving fuel efficiency worsens safety performance. |
| Principles Suggested | Principle 3 (Local Quality), Principle 7 (Nested Doll), Principle 40 (Composite Materials), Principle 35 (Parameter Changes) |
| Application — Principle 3 | Local Quality: Rather than uniform material throughout a structural component, vary the material properties locally — denser/stronger where impact energy must be absorbed, lighter material elsewhere. This principle directly describes the modern tailor-welded blank (TWB) technology used in automotive body structures. |
| Application — Principle 7 | Nested Doll: Use a hollow cross-section geometry with internal reinforcing ribs or foam fill — achieving the load-bearing performance of a solid structure at a fraction of the mass. This principle describes modern crash box and hydroformed structural member designs. |
| Outcome | Concept for a variable-density composite structural member with localized high-strength zones — novel relative to existing art at the time, supporting a successful patent application. |

Example 4: Software / AI Systems — Model Performance vs. Latency

| Example 4: AI Systems — Model Performance vs. Latency | |
|---|---|
| Industry | Software / Artificial Intelligence |
| Problem | Increasing AI model accuracy (improving: adaptability) requires larger models with more parameters, increasing inference latency and compute cost (worsening: productivity / speed of operation). |
| Contradiction | Technical Contradiction — Improving accuracy worsens response speed and resource efficiency. |
| Principles Suggested | Principle 1 (Segmentation), Principle 15 (Dynamics), Principle 25 (Self-Service), Principle 10 (Preliminary Anti-Action) |
| Application — Principle 1 | Segmentation: Rather than a single monolithic model, segment the problem space and deploy specialized smaller models for each segment — each optimized for its domain — achieving accuracy comparable to the large model at lower per-query latency. This describes the modern Mixture-of-Experts (MoE) architecture. |
| Application — Principle 15 | Dynamics: Make the model's computational depth dynamic — shallow inference for simple queries, deeper computation for complex ones. This describes adaptive computation approaches such as early-exit neural networks. |
| Outcome | A novel architecture concept combining dynamic routing with domain-specialized expert modules — a differentiated technical contribution with clear patentability indicators. |

Example 5: Consumer Products — Packaging Sustainability

| Example 5: Consumer Products — Sustainable Packaging | |
|--|---|
| Industry | Consumer Goods / Sustainability |
| Problem | Improving packaging barrier properties to extend shelf life (improving: reliability) requires thicker or multi-layer plastic films, worsening recyclability and increasing material use (worsening: harm to environment). |
| Contradiction | Technical Contradiction — Improving product protection worsens environmental impact. |
| Principles Suggested | Principle 35 (Parameter Changes), Principle 36 (Phase Transitions), Principle 30 (Flexible Shells and Thin Films), Principle 40 (Composite Materials) |

| | |
|-----------------------------------|--|
| Application — Principle 36 | Phase Transitions: Apply a barrier coating that transitions from a porous state during manufacturing (allowing escape of residual gases) to a dense, impermeable barrier state after sealing — achieved through a UV-curable coating that crosslinks on demand. This resolves the contradiction by decoupling the barrier formation step from the packaging process. |
| Application — Principle 30 | Flexible Shells and Thin Films: Replace thick multi-layer film with an ultra-thin nano-composite barrier film — achieving equivalent or superior barrier performance at a fraction of the material thickness and in a monomaterial format that is fully recyclable. |
| Outcome | Two invention disclosures in packaging barrier technology and one in process engineering, all derived from a single one-hour IQ Ideas+ Inventive Principles session. |

6. Strategic Value of TRIZ for IP and R&D Organizations

Beyond its direct application to individual technical problems, TRIZ-powered structured ideation delivers strategic value across the innovation lifecycle — from early-stage R&D to IP portfolio development, competitive intelligence, and technology roadmapping.

6.1 Expanding the IP Landscape

One of the most significant strategic benefits of TRIZ-guided ideation is the systematic generation of IP around a core technology. Because TRIZ generates multiple inventive directions from a single problem — each principle pointing toward a different class of solution — a single ideation session can yield a cluster of related but distinct inventive concepts, each representing a potential patent application.

This cluster-based approach to IP generation supports the development of patent families and defensive patent portfolios that are structurally more robust than those generated through ad hoc invention. It also enables organizations to build IP fences around core innovations by capturing not just the primary solution but the full solution space defined by the applicable Inventive Principles.

6.2 Accelerating Time-to-Innovation

The bottleneck in innovation is rarely a shortage of technical knowledge — it is the time and cognitive effort required to move from problem recognition to solution concept. TRIZ dramatically compresses this cycle by providing an immediate, structured pathway from problem to principle to solution direction, bypassing the extended periods of unstructured exploration that characterize conventional brainstorming.

Studies of TRIZ adoption in industrial R&D environments have consistently found reductions in problem-solving cycle time of 50% or more for complex technical challenges (Savransky, 2000; Domb & Dettmer, 1999). IQ Ideas+ amplifies this acceleration by automating the contradiction mapping and principle recommendation steps, making TRIZ accessible to practitioners without specialized TRIZ training.

6.3 Cross-Domain Innovation

Because TRIZ principles are domain-independent, IQ Ideas+'s Inventive Principles feature enables cross-domain analogical reasoning at scale. The system can surface examples of how a given principle has been applied in industries or domains entirely different from the user's own, opening solution pathways that would never emerge within a single-domain brainstorming process.

This cross-domain capability is particularly valuable in the current innovation environment, where the most disruptive advances frequently arise from the application of principles or technologies from one domain to problems in another — a pattern that TRIZ both predicts and facilitates.

6.4 Supporting Patent Drafting and Prior Art Strategy

IQ Ideas+'s integration of Inventive Principles with IP.com's patent database creates a uniquely powerful environment for IP professionals. As inventive concepts are generated, users can immediately initiate prior art searches, assess novelty, and begin framing claims — with the

Inventive Principle analysis providing a structured conceptual framework that simplifies the task of articulating technical distinctions from existing art.

Conversely, the Inventive Principles feature can be used as an analytical tool for competitive intelligence — helping IP strategists understand the solution strategies embedded in competitors' patent portfolios and identify white spaces in the IP landscape where novel approaches remain uncovered.

7. Conclusion

TRIZ stands apart from other innovation methodologies not because it promises creativity, but because it delivers a disciplined path to it. Rooted in the rigorous analysis of hundreds of thousands of patents, grounded in a coherent philosophy of contradiction resolution and technical evolution, and operationalized through a structured toolkit of forty Inventive Principles and associated frameworks, TRIZ transforms invention from an art into a science — without sacrificing the creative insight that makes invention valuable.

IP.com's IQ Ideas+ brings this proven methodology to the fingertips of engineers, scientists, and IP professionals through the Inventive Principles feature — an AI-guided workflow that democratizes access to TRIZ without requiring years of specialized training. By capturing problems in structured form, identifying the contradictions at their core, and surfacing the most relevant inventive principles with rich contextual guidance, IQ Ideas+ accelerates the journey from challenge to concept, and from concept to protected innovation.

In an innovation landscape defined by accelerating technology cycles, intensifying IP competition, and the imperative to do more with less, the structured, systematic power of TRIZ — delivered through IQ Ideas+ — represents not merely a productivity tool but a strategic advantage.

To Learn More

To explore the Inventive Principles feature in IQ Ideas+, schedule a demonstration with your IP.com account team or access the IQ Ideas+ platform at ip.com. For enterprise deployment inquiries, contact IP.com Innovation Intelligence at info@ip.com.

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