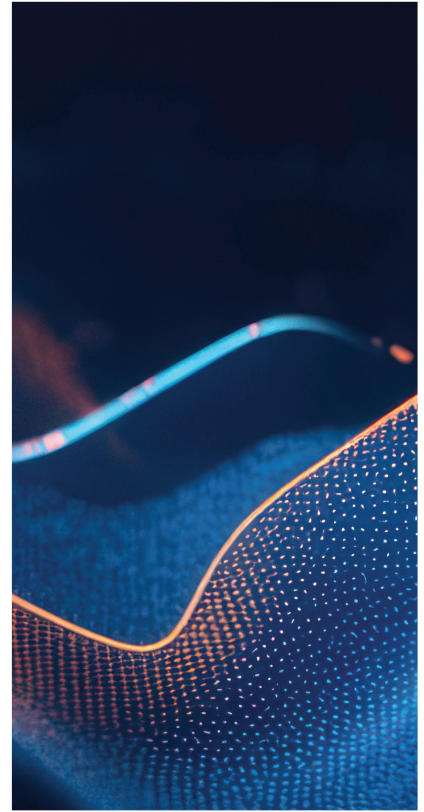
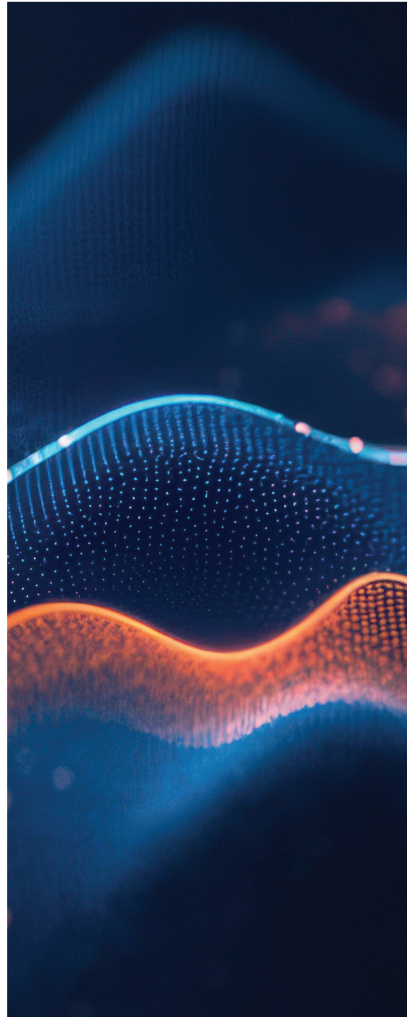


FROST & SULLIVAN
BEST PRACTICES



2026

ASIA-PACIFIC INTEGRATED
INDUSTRIAL AUTOMATION
INTELLIGENCE

**CUSTOMER VALUE
LEADERSHIP**

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Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each recognition category before determining the final recognition recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. ISDN Holdings Limited excels in many of the criteria in the integrated industrial automation intelligence space.

RECOGNITION CRITERIA	
<i>Business Impact</i>	<i>Customer Impact</i>
Financial Performance	Price/Performance Value
Customer Acquisition	Customer Purchase Experience
Operational Efficiency	Customer Ownership Experience
Growth Potential	Customer Service Experience
Human Capital	Brand Equity

ISDN: A Leading Pan-Asia Industrial Automation Leader

Founded in 1986 and headquartered in Singapore, ISDN Holdings Limited (ISDN) is a leading full-stack industrial automation company in the Asia-Pacific (APAC) region. ISDN has a 40-year history of helping companies advance automation capabilities, from early motion control to AI-powered advanced automation today.

Today, ISDN has grown into an Industry 4.0 solutions provider serving over 10,000 customers.¹ ISDN has a network of approximately 75 offices across Asia with approximately 1,300 employees in total, and around 400 to 500 working directly on the ground with customers and equipment.² Its technologies power advanced industrial sectors: semiconductors, Industry 4.0 manufacturing, medical devices, industrial robotics, aerospace, and clean energy.

ISDN operates across Singapore, China, Hong Kong, Malaysia, Indonesia, Taiwan, Cambodia, Thailand, India, the Philippines, and Vietnam, demonstrating a broad impact. In Taiwan, the company established its subsidiary, ISDN Precision System, in 2024, investing in local production of linear motors, high-precision gantries, and customized mechatronics solutions, targeting the country's high-precision semiconductors, optics, and electric vehicle industries.

¹ <https://www.themanufacturingoutlookapac.com/isdn-holdings>

² Frost & Sullivan Discussion with ISDN Holdings (May 2026)

The company has structured its subsidiaries around five pillars: motion control, system solutions, precision manufacturing, software, and renewable energy. This structure keeps individual units nimble while enabling cross-functional collaboration when demand arises. A vice president leads each pillar, manages internal functions, shares knowledge, and coordinates resources across business units. ISDN shares

“ISDN's high retention among top accounts reflects a consistent track record of application-accurate solutioning. The company's engineers engage at the requirements stage, not at procurement, narrowing the gap between customer needs and the delivered outcome. This discipline, sustained over 40 years and now extended to AI-enabled tools, underpins its customer satisfaction metrics and competitive positioning.”

- Iqra Azam
Best Practices Research Analyst

backend services across the organization and centralizes financial controls, keeping operating costs low while staying agile.

ISDN offers motion control solutions spanning conceptualization, design, prototyping, installation, testing, and after-sales technical support. It also facilitates edge-to-cloud integration, advanced visualization tools, wide-area industrial connectivity, and machine analytics and intelligence. The company's technology also underpins products and manufacturing in fifth-generation industrial robotics, the Internet of Things (IoT), industrial IoT (IIoT), cloud and edge computing, and intelligent manufacturing.

ISDN operates as a regional commercialization partner for global technology leaders. Its subsidiaries distribute products for major global brands (e.g., Maxon Motor, Yaskawa, Harmonic Drive, Renishaw, Schneider Electric, Aveva, Penguin Solutions, Rockwell Automation, Beckhoff, and THK etc), combining technologies into optimized total system solutions. The company implements a technology-agnostic approach and leverages deep regional expertise to serve mid-market industrial clients across APAC. It often works with global players on regional projects.

Recent collaborations reinforce ISDN's robust industry position. Its subsidiary, Servo Dynamics, entered a joint sales agreement with Tokyo-based Harmonic Drive Systems to distribute precision control products in China, Singapore, Taiwan, Vietnam, Thailand, Malaysia, and other key regional markets. This collaboration targets high-growth sectors, including semiconductor manufacturing equipment, medical devices, and AI-enabled robotics, supporting increasing demand for precision motion and automation technologies across APAC.

ISDN has continued to expand its technology capabilities “up the stack” and now offers fully operated, turnkey solutions for industry. For example, ISDN established strategic partnerships to bring drone and robotics technologies to the Asia-Pacific region. ISDN also developed a smart warehouse system in partnership with Schneider Electric (deployed in Singapore and other countries), delivering a 50% productivity gain, a 91% reduction in stocktaking time, and a 33% decrease in manpower.³

Frost & Sullivan finds that ISDN's technology-agnostic integration model, broad and well-established partner ecosystem, and points of presence throughout Asia add to its competitive edge. ISDN's value proposition combines technology flexibility, localized engineering support, rapid customization, and

³ <https://www.minichart.com.sg/2026/04/28/isdn-holdings-limited-agm-2026-corporate-strategy-industrial-automation-hydropower-investments-and-governance-insights/>

lifecycle service capabilities. This enables customers to avoid vendor lock-in while benefiting from solutions optimized for their specific operational requirements, growth objectives, and long-term investment plans. The company's regional impact, sustained across cycles and geographies, is a defining marker of long-term industrial leadership in APAC.

Purpose-built Technology Positions ISDN at the Center of Industrial Convergence

In 2025, industrial automation entered a new phase as Industry 4.0 converged with AI, and the market moved toward fully autonomous factory environments with minimal human intervention. No standardized solution has emerged for this transition, creating a significant opportunity for ISDN to leverage its integration expertise, software capabilities, and user-centric innovation approach to support customers as they navigate industrial transformation.

“Frost & Sullivan finds that ISDN's structural advantage lies in solving problems other vendors leave unaddressed. Across automation, software, precision manufacturing, and engineering services, the company prioritizes measurable outcomes over standalone technology deployments.”

- Arun Prasath
Principal Consultant,
Industrial

The company proactively identifies customer pain points and develops purpose-built solutions that provide measurable operational improvements. Industrial facilities (including semiconductor manufacturing plants, data centers, oil and gas companies and facilities management operations) run large numbers of interconnected equipment systems with closed-loop controls. These systems generate continuous streams of alarm signals every minute. Maintenance teams must manually review each one to determine which requires immediate action, a process that is neither efficient nor scalable.

ISDN resolves the problem through an AI tool, an industrial alarm management and reporting software that collects all incoming alarm signals from intelligent sensors, devices, logic controllers, and IIoT systems. ISDN's AI layer then sorts and

prioritizes those signals and autonomously assigns each task to the relevant staff member through existing communication tools (e.g., short message service and WhatsApp). This ensures the right person receives real-time, first-hand information when an alarm is raised.

ISDN has installed the AI tool for an oil company in Thailand, a semiconductor manufacturing facility in Singapore, and a data center in Singapore. Additionally, AI tool transforms conventional factory environments into intelligent operational ecosystems by automating supervisory-level decision-making, enhancing responsiveness, and cutting the risk of delayed interventions. Customer feedback has been positive, with clients reporting they had searched for similar solutions without success before leveraging ISDN's AI technology.

Beyond individual deployments, ISDN's solutions boost operational efficiency, accelerate production ramp-up, magnify workforce productivity, and strengthen decision-making through real-time visibility. By integrating automation, software, and engineering services into a unified offering, the company helps customers achieve faster time-to-value and lower total cost of ownership (TCO) throughout the asset lifecycle.

ISDN's broader industrial software suite extends its smart manufacturing capabilities. Its Industry 4.0 platform connects demand and supply chains via the shop floor through a manufacturing execution system and quality management system, and links to warehouse and shipping operations through a warehouse management system. This integrated framework improves productivity and quality, reduces downtime and waste, and enhances warehouse management.

ISDN's strategy accentuates high-growth technology segments, including semiconductor backend equipment, data centers, renewable energy, energy storage systems, drones, electric vehicles, and intelligent warehouse and factory environments. To pursue these opportunities, the company has established seven specialized sub-business units aligned with these high-growth segments.

Frost & Sullivan finds that ISDN's structural advantage lies in solving problems other vendors leave unaddressed. Across automation, software, precision manufacturing, and engineering services, the company prioritizes measurable outcomes over standalone technology deployments.

Full-stack Capability Backed by In-house Engineering Closes the Gap Between Design and Delivery

ISDN operates across a full automation stack, covering components and controls, supervisory systems, planning tools, and management platforms; all deployable on-premises or in the cloud. Few small- to medium-sized players in APAC operate at this breadth. Only a handful of large automation conglomerates cover comparable ground, and ISDN collaborated with several of them.

The company's agility adds to its competitiveness. Large players who manage vast portfolios in multiple markets rely on partners like ISDN to understand localized needs, prioritize the right applications, and deliver solutions quickly. The company fills this role because it is not constrained by the scale and organizational complexity that slow down larger organizations. Rather than competing directly with automation conglomerates, ISDN complements their capabilities through localized engineering expertise, rapid deployment support, and application-specific customization. This collaborative model enables customers to benefit from world-class technologies while receiving the responsiveness and flexibility required for successful implementation in diverse operating environments.

ISDN does not limit its expertise to a single sector or application. Therefore, it can tailor solutions for different verticals as opportunities emerge. The company does not need to build entirely new capabilities for each market. Instead, it maximizes existing resources in new configurations. It produces linear and voice-coil motors for semiconductor applications, as well as high-precision, zero-backlash gearboxes, helping customers to achieve greater reliability and performance in mission-critical manufacturing ecosystems.

ISDN also implements a linear transfer element that replaces rack-and-pinion systems and enables roller-motion linear motion without grease lubrication, achieving absolute positioning accuracy of up to 30 microns over long travel distances, and reaching speeds of up to 12 meters per second.⁴ Manufacturing facilities for these components are in China and Taiwan.

When existing supply chain partners cannot provide a component that a customer application requires, ISDN develops it internally, lowering project risk, shortening implementation timelines, and promoting

⁴ Ibid.

greater customer confidence. This model helps the company offer comprehensive solutions while sustaining synergies with market leaders across motion control, robotics, and power electronics. In 2022, ISDN established a dedicated software team in China, comprising 30 software engineers, and developed a full suite of Industry 4.0 software.

Building in-house software capabilities has become a strategic necessity as demand gradually shifts toward highly customized digital solutions. The Nanjing team is now central to ISDN's smart warehouse solution. The team is also approaching industrial customers that run legacy software platforms, many of which are over ten years old. As industrial digitalization accelerates, customers face increasing pressure to modernize aging infrastructure and automate production. ISDN facilitates full-stack replacements, covering software architecture and shop-floor integration for both upgrade and greenfield scenarios.

What separates ISDN from large conglomerates and niche integrators is its ability to combine the technical depth of the former with the responsiveness and customer intimacy of the latter. This combination is rare in APAC's industrial automation market, and competitors cannot easily duplicate it.

Modular Organizational Structure Converts Subsidiary Diversity into Competitive Advantage

For complex projects, ISDN assembles a consortium of relevant subsidiaries and disperses them back to their regular operations post-delivery. A smart warehouse deployment, for example, draws on the Nanjing software, the robotics application, and the system integrator experts simultaneously. This model keeps overhead low while enabling the group to address diverse and demanding requirements across verticals.

The ISDN group also incubates ventures at earlier stages of development. For example, ISDN's IDI Dynamics debuted a high-speed laser marker for semiconductor assembly and test in May 2026. This next-generation solution offers 2.5 times higher marking speed and occupies 25% less physical space, helping customers improve throughput while optimizing valuable production floor space.⁵

ISDN also has a dedicated industrial hardware business unit that entails machine shop, zinc die casting, stamping, precision machining, injection molding, and rubber extrusion. This subsidiary serves customers in the data center infrastructure, automotive, and energy storage sectors, providing highly engineered components. For energy storage, it supplies explosion-proof hinges and locks for containerized systems.

The drone facade inspection business exemplifies ISDN's cross-domain reach. The company works with facility management companies that front building and infrastructure inspection projects for asset owners. ISDN handles data collection through advanced drone operations and generates inspection reports that magnify inspection accuracy, reduce manual inspection risks, and accelerate maintenance decision-making for asset owners.

On the data center side, ISDN has built cooling capabilities through its mechanical and electrical (M&E) subsidiary. Furthermore, its subsidiary constructed a sample cooling system installed in Schneider Electric's showroom, demonstrating its ability to compete in the data center M&E infrastructure space. As AI-driven workloads amplify demand for high-performance data center infrastructure, ISDN's capabilities position the company to offer advanced, scalable cooling solutions.

⁵ <https://www.straitstimes.com/paid-press-releases/isdns-idi-dynamics-debuts-high-speed-laser-marker-for-semiconductor-assembly-and-test-osat-20260526>

ISDN's organizational model reflects a group built for range without sacrificing focus. Each subsidiary operates with a defined remit, yet the consortium structure empowers the company to leverage the full weight of its capabilities when a project demands it.

Record Financial Performance and Strategic Expansion Validate ISDN's Growth Model

ISDN targets several high-growth verticals across APAC. Semiconductor backend equipment demand remains strong, driven by AI chipset development and the resulting need for equipment manufacturers to expand and upgrade production lines. The data center market also represents a substantial opportunity.

Motion control is the backbone of ISDN's business, accounting for approximately 50% to 60% of revenue.⁶ Other segments include renewable energy, medical, and additional verticals. China accounts for 60% to 70% of ISDN's current revenue.⁷ Malaysia and Vietnam are the next growth markets, and ISDN is actively broadening its presence in Thailand. The company's strategy is to serve the broader Asian market by leveraging its engineering depth, regional footprint, and long-standing customer relationships across the semiconductor, data center, smart factory, and emerging industrial technology sectors.

Looking ahead, ISDN projects a 15% to 20% compound annual growth rate over the next three to five years.⁸ The strongest opportunities lie in semiconductors, data centers, medical equipment, physical AI, energy storage, and renewable energy. ISDN also supports customers' sustainability objectives through energy-efficient motion control systems, intelligent facility management solutions, renewable energy initiatives, and automation technologies that reduce waste, improve resource utilization, and enhance operational efficiency across industrial environments. The company plans to sustain momentum by strengthening existing partnerships, designing proprietary products and components, expanding geographically, and using its in-house software to offer more integrated solutions across these verticals.

ISDN is a public company dual-listed on the Singapore and Hong Kong stock exchanges. In fiscal year 2025, the company achieved a record revenue of SGD 440.2 million, reflecting 18.2% growth on an SGD basis and 21.1% increase on a constant currency basis compared to 2024. Core profit attributable to shareholders grew by 25%.⁹

Alongside excellent financial performance, ISDN acquired a 51% stake in PT Funda in August 2025. PT Funda specializes in end-to-end hydropower services (e.g., engineering, procurement, and construction and operations and maintenance) in Indonesia. The acquisition, valued at approximately SGD 2 million, fortifies ISDN's renewable energy pillar and its ambition to scale hydropower presence in Indonesia.¹⁰ The transaction enhances the company's ability to support customers pursuing renewable energy and energy-transition initiatives.

ISDN has built the geographic reach, technical depth, and financial track record to compete for the region's most demanding industrial contracts. The question is no longer whether the group can scale, but how

⁶ Frost & Sullivan Discussion with ISDN Holdings (May 2026)

⁷ Ibid.

⁸ Ibid.

⁹ Ibid.

¹⁰ https://links.sgx.com/FileOpen/eISDN_Acquisition%20of%20PT%20Funda.ashx?App=Announcement&FileID=856613

quickly its newer verticals convert pipeline into revenue at the margins established by its core motion control business.

Customer Ownership Built on Technical Credibility and Sustained Engagement

ISDN measures customer satisfaction through periodic surveys, implements corrective actions based on customer feedback, and reports consistently high retention among its top customer accounts. These long-standing relationships reflect the company's technical expertise, solution effectiveness, responsiveness, and commitment to post-deployment support. Its in-house customer relationship management platform tracks the performance of existing and new accounts, fueling customer acquisition as the company expands its footprint and solution offerings.

ISDN prioritizes customer requirements over product or supplier preferences. When a prospect approaches the company, ISDN's engineers evaluate the customer's operational objectives, technical requirements, and broader supply chain considerations before recommending a suitable solution. For bundled standard product solutions, ISDN reduces the TCO by standardizing components where possible, since mass-produced parts carry lower defect rates and simpler replacement logistics. For integrated and customized solutions, feedback is continuous throughout implementation.

For every engagement, ISDN's engineers work closely with customers from the start, developing proposals based on detailed application parameters (including speed, accuracy, load, cycle time, environmental conditions, and automation level). A machine designer might approach the company with a request to move an item from point A to point B, and ISDN's engineers will gather every relevant data point before creating a proposal. Without deep engineering experience and application know-how, that process is not possible. ISDN has built and continuously refined this capability over the years.

ISDN regularly augments its engineering skill set by tracking market trends. Its ability to offer AI-powered tools at the current early stage of market development is a direct result of sustained investment in technical knowledge. The company is leveraging AI to minimize human interaction in its internal operations, applying the same improvement logic it offers to customers.

To bolster brand recognition, ISDN participates in trade shows, publishes product press releases, and promotes through social media.

ISDN's high retention among top accounts reflects a consistent track record of application-accurate solutioning. The company's engineers engage at the requirements stage, not at procurement, narrowing the gap between customer needs and the delivered outcome. This discipline, sustained over 40 years and now extended to AI-enabled tools, underpins its customer satisfaction metrics and competitive positioning.

Conclusion

Harnessing four decades of industry expertise and customer-centric innovation, ISDN Holdings Limited (ISDN) has built one of Asia-Pacific's most complete industrial automation businesses by staying engineering-led at every stage of its growth. Its five-pillar structure, proprietary component manufacturing, in-house software capability, and a partner network spanning the region's largest automation conglomerates give it a competitive surface that neither pure distributors nor niche integrators can match. The company's record revenue of SGD 440.2 million and 25% core profit growth confirm that this model produces consistent financial returns, not just operational breadth. Strategic moves (e.g., the PT Funda acquisition) demonstrate that ISDN is actively deepening its position in high-priority segments ahead of market inflection points. With proven deployments across semiconductors, data centers, smart warehousing, and renewable energy, ISDN enters its next growth phase with the track record, organizational architecture, and regional relationships that most competitors are still trying to build.

With its strong overall performance, ISDN Holdings Limited earns Frost & Sullivan's 2026 Asia-Pacific Customer Value Leadership Recognition in the integrated industrial automation intelligence industry.

What You Need to Know about the Customer Value Leadership Recognition

Frost & Sullivan's Customer Value Leadership Recognition identifies the company that offers products or services customers find superior for the overall price, performance, and quality.

Best Practices Recognition Analysis

For the Customer Value Leadership Recognition, Frost & Sullivan analysts independently evaluated the criteria listed below.

Business Impact

Financial Performance: Strong overall business performance is achieved in terms of revenue, revenue growth, operating margin, and other key financial metrics

Customer Acquisition: Customer-facing processes support efficient and consistent new customer acquisition while enhancing customer retention

Operational Efficiency: Company staff performs assigned tasks productively, quickly, and to a high-quality standard

Growth Potential: Growth is fostered by a strong customer focus that strengthens the brand and reinforces customer loyalty

Human Capital: Leveraging innovative technology characterizes the company culture, which enhances employee morale and retention

Customer Impact

Price/Performance Value: Products or services offer the best ROI and superior value compared to similar market offerings

Customer Purchase Experience: Purchase experience with minimal friction and high transparency assures customers that they are buying the optimal solution to address both their needs and constraints

Customer Ownership Excellence: Products and solutions evolve continuously in sync with the customers' own growth journeys, engendering pride of ownership and enhanced customer experience

Customer Service Experience: Customer service is readily accessible and stress-free, and delivered with high quality, high availability, and fast response time

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty, which is regularly measured and confirmed through a high Net Promoter Score®

Best Practices Recognition Analytics Methodology

Inspire the World to Support True Leaders

This long-term process spans 12 months, beginning with the prioritization of the sector. It involves a rigorous approach that includes comprehensive scanning and analytics to identify key best practice trends. A dedicated team of analysts, advisors, coaches, and experts collaborates closely, ensuring thorough review and input. The goal is to maximize the company's long-term value by leveraging unique perspectives to support each Best Practice Recognition and identify meaningful transformation and impact.

VALUE IMPACT			
STEP		WHAT	WHY
1	Opportunity Universe	Identify Sectors with the Greatest Impact on the Global Economy	Value to Economic Development
2	Transformational Model	Analyze Strategic Imperatives That Drive Transformation	Understand and Create a Winning Strategy
3	Ecosystem	Map Critical Value Chains	Comprehensive Community that Shapes the Sector
4	Growth Generator	Data Foundation That Provides Decision Support System	Spark Opportunities and Accelerate Decision-making
5	Growth Opportunities	Identify Opportunities Generated by Companies	Drive the Transformation of the Industry
6	Frost Radar	Benchmark Companies on Future Growth Potential	Identify Most Powerful Companies to Action
7	Best Practices	Identify Companies Achieving Best Practices in All Critical Perspectives	Inspire the World
8	Companies to Action	Tell Your Story to the World (BICEP*)	Ecosystem Community Supporting Future Success

*Board of Directors, Investors, Customers, Employees, Partners

About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at <http://www.frost.com>.

The Growth Pipeline Generator™

Frost & Sullivan's proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fueled by the Innovation Generator™.

[Learn more.](#)

Key Impacts:

- **Growth Pipeline:** Continuous Flow of Growth Opportunities
- **Growth Strategies:** Proven Best Practices
- **Innovation Culture:** Optimized Customer Experience
- **ROI & Margin:** Implementation Excellence
- **Transformational Growth:** Industry Leadership



The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- **Megatrend (MT)**
- **Business Model (BM)**
- **Technology (TE)**
- **Industries (IN)**
- **Customer (CU)**
- **Geographies (GE)**

