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**TECHNOLOGY
INNOVATION
LEADER**

*Enhancing Customer Impact Through
Powerful Technology Integration*

*RECOGNIZED FOR BEST PRACTICES IN THE
GLOBAL INDUSTRIAL AI INDUSTRY*

FROST & SULLIVAN

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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. Haber excels in many of the criteria in industrial AI space.

RECOGNITION CRITERIA	
<i>Business Impact</i>	<i>Technology Leverage</i>
Financial Performance	Commitment to Innovation
Customer Acquisition	Commitment to Creativity
Operational Efficiency	Stage Gate Efficiency
Growth Potential	Commercialization
Human Capital	Application Diversity

The Changing Industrial Landscape

Manufacturing and process industries operate under increasing pressure to deliver stable quality, minimize resource use, and sustain profitability amid shrinking technical workforces. Many plants still depend on legacy automation built on programmable logic controllers (PLCs) and supervisory control and data acquisition (SCADA) systems. These systems execute predefined routines but cannot adjust dynamically when raw materials vary or environmental conditions shift. As experienced operators retire and skilled replacements remain scarce, the gap between operational complexity and available expertise widens, exposing plants to inefficiency and inconsistency.

Four persistent challenges define this landscape. First, operator attrition erodes institutional knowledge, leaving facilities reliant on manual adjustments that differ from shift to shift. Second, raw-material variability introduces unpredictable changes in feedstock quality, forcing plants to constantly recalibrate processes to maintain output consistency. Third, excess consumption of water, energy, and chemicals results from reactive control loops that overshoot set points rather than anticipate process behavior. Finally, traditional automation architecture remains rigid, designed for stable inputs and fixed control logic rather than real-time adaptation. The result is higher production costs, unstable product quality, and unnecessary environmental impact.

These limitations create a growing need for automation that can sense, decide, and act intelligently—supporting human operators instead of overburdening them. Rather than waiting for deviations to occur, plants seek systems that predict and prevent inefficiency at the source. The industry's next evolution,

therefore, centers on intelligent, artificial intelligence (AI)-driven process control that combines physics knowledge with machine learning to continuously optimize performance. This shift redefines the role of automation from executing instructions to autonomously improving them.

Haber addresses this transformation through their products Elixia and Mt.Fuji, an industrial AI platform that connects plant data, domain expertise, and real-time control into a single decision framework. By continuously learning process dynamics, Elixia & Mt.Fuji stabilizes production, reduces resource consumption, and enables less-experienced operators to manage complex systems confidently. The platform's prescriptive and closed-loop intelligence moves factories from reactive oversight to proactive optimization, aligning efficiency, sustainability, and workforce resilience. Through this capability, Haber positions industrial AI not as a future vision but as a practical response to the most pressing constraints facing industrial operations.

Elixia & Mt.Fuji: Engineering Differentiation

Elixia and Mt.Fuji transforms industrial AI by closing the gap between data analysis and process control. Traditional systems collect information for monitoring but leave optimization decisions to human operators. In contrast, Elixia & Mt.Fuji executes real-time, closed-loop control, continuously adjusting

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- Vijay Mathew
Director, Growth Advisory

process variables to maintain optimal conditions without manual intervention. This capability enables plants to respond instantly to material changes, production fluctuations, or environmental shifts—an achievement few automation systems match.

At the core its a hybrid intelligence architecture that integrates physics-based modeling with advanced machine learning. The platform understands each process at two levels: fundamental scientific principles that define cause-and-effect relationships, and data-driven models that learn subtle, context-specific variations over time. This dual approach ensures both accuracy and adaptability. When input conditions

change or new data becomes available, Elixia & Mt.Fuji recalibrates models automatically to preserve control precision. Plants, therefore, achieve stable output quality across diverse raw materials and operating environments.

Equally critical is the modular design of Haber's Industrial AI platform, which uses Industrial DataOps for rapid, context-rich integration with existing PLC and SCADA systems. Instead of replacing legacy systems, the platform extends their functionality with plug-and-play modules that capture sensor data, perform contextualization to yield AI-ready and actionable data, apply predictive algorithms, and feed optimized control signals back to the plant floor. Its scalable architecture means operators can begin with a single process unit and seamlessly expand to entire facilities without disrupting ongoing operations. The result is accelerated rollout and early return on investment.

Elixia & Mt.Fuji also advances usability through an operator-first interface that translates AI recommendations into intuitive visual cues. Engineers can view process behavior, rationale, and projected

outcomes in real time, fostering trust and adoption. This transparency ensures that intelligence remains interpretable while empowering teams to focus on high-value decision-making instead of repetitive corrections.

Frost & Sullivan recognizes Haber for redefining industrial AI through a platform that transforms insight into immediate, measurable action. By combining hybrid intelligence, modular deployment, and real-time control, their products delivers a form of automation that adapts as fast as the processes it manages—setting a new benchmark for responsiveness, reliability, and value creation in the industrial environment.

Impact Delivered at Scale: Turning Data into Measurable Value

Elixa & Mt.Fuji's impact extends beyond proof-of-concept performance into sustained operational transformation across global industries. More than 100 manufacturing sites now rely on the platform to stabilize production, reduce variability, and conserve resources.¹ The cumulative outcomes demonstrate both financial and environmental value: over \$300 million in annual recurring savings, 33 million pounds of chemicals avoided, and nearly 29 million cubic meters of water preserved.² Each deployment converts complex process challenges into quantifiable improvements that strengthen productivity and profitability.

In pulp and paper facilities, Elixa & Mt.Fuji's adaptive control algorithms maintain critical parameters such

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- Manuel Albornoz
Best Practices Research Analyst

as Kappa number within tighter tolerances, improving yield and reducing bleaching chemical consumption. Plants report double-digit reductions in variability and significant energy savings while maintaining consistent paper brightness and strength. In water treatment applications, the platform optimizes dosing control, ensuring chemical use precisely matches system demand. Customers experience sharper process stability, fewer alarms, and measurable reductions in total cost of ownership. These results highlight how AI-driven control directly supports both sustainability goals and operational resilience.

Credibility grows further through tangible case studies that prospective clients can directly relate to. In one case, a pulp mill achieved tighter process control, higher yield, and lower chemical costs after implementing Haber's AI platform. Kappa variation across batches decreased from 1.5 to 2.0 to 0.8, ensuring consistent pulp quality.³ Controlled cooking protected fiber yield and eliminated the 2–3% per-ton losses previously caused by overcooked batches.⁴ Optimized effective alkali and caustic dosing reduced chemical use by 2-3 kilograms per air-dried ton.⁵

¹ Frost & Sullivan Interview with Haber (September 2025)

² Ibid.

³ Ibid.

⁴ Ibid.

⁵ Ibid.

This success resulted from real-time AI monitoring of the Kappa number, closed-loop dosing control, and an operator-first design that enabled seamless adoption.

The scale of adoption also demonstrates Elixia's ability to drive continuous improvement rather than one-time efficiency gains. Through embedded learning loops, the system refines its predictions as more data accumulate, allowing customers to sustain performance advantages year after year. Enterprises using Elixia report improved uptime, reduced operator fatigue, and faster decision-making, transforming automation from a support tool into a performance multiplier.

This level of impact redefines what digital transformation means for industrial plants. Instead of relying on isolated dashboards or periodic analytics, Elixia embeds intelligence within daily operations. Each control adjustment represents both an immediate correction and a contribution to long-term optimization. The platform thus converts operational data into a strategic asset—one that compounds value with every production cycle. By integrating learning, control, and measurable outcomes at scale, Haber demonstrates that AI can deliver tangible returns for both business performance and environmental stewardship.

Cross-Industry Scalability: A Single AI Core for Diverse Operations

Elixia and Mt.Fuji's design philosophy centers on scalability. The platform uses a common AI engine capable of adapting its control logic to diverse industrial environments without reengineering the underlying architecture. This flexibility allows enterprises to extend proven models from one process to another, accelerating deployment and compounding value across business units. By maintaining a unified data and control framework, Haber enables organizations to scale digital transformation efficiently, regardless of sector or plant maturity.

In the pulp and paper industry, Elixia and Mt.Fuji manages complex parameters such as Kappa number, deckle optimization, and moisture balance to stabilize production and minimize chemical variability. These capabilities ensure consistent paper quality while reducing chemical, water, and energy use. In food and beverage facilities, the platform governs batch operations and heat exchange processes, delivering tighter control over temperature, flow, and ingredient concentration. Plants achieve greater yield consistency and faster line changeovers, directly improving throughput.

Within utilities and large-scale water systems, Elixia and Mt.Fuji optimizes dosing and flow control to minimize waste and extend asset life. The system detects inefficiencies early and adjusts automatically, lowering maintenance costs and enhancing regulatory compliance. In institutional environments like commercial buildings or campus-scale facilities, Elixia and Mt.Fuji monitors water and energy systems to improve resource allocation and sustainability reporting. Each of these deployments follows the same model: rapid integration, minimal reconfiguration, and measurable return on investment within weeks.

The platform's versatility rests on its ability to accommodate different data conditions, instrumentation quality, and control infrastructures. Whether connected to advanced or legacy sensor networks, Elixia and Mt.Fuji tailors its predictive algorithms to available signals, ensuring performance gains even in environments with limited digital readiness. This adaptability helps customers standardize intelligent control across geographically distributed assets while preserving local autonomy.

Elixa and Mt.Fuji sector-spanning success shows that industrial AI is not confined to a single process type. By combining modular architecture with domain-specific flexibility, Haber proves that scalable AI can serve as the foundation of a multi-industry operational ecosystem—one that delivers consistent efficiency, sustainability, and reliability across every plant it connects.

The Human and Technical Enablers Behind Elixa.ai's Success

Behind Elixa and Mt.Fuji's performance lies a disciplined execution model that unites technology, people, and process. Haber designed the platform around an operator-first philosophy, ensuring that AI complements human expertise rather than replacing it. Interfaces translate complex model outputs into intuitive dashboards, giving on-floor teams clear visibility into process trends, recommended actions, and expected results. By simplifying decision-making and maintaining human oversight, Elixa and Mt.Fuji bridges the gap between advanced analytics and real-world usability.

This design philosophy extends to the company's rapid deployment framework, which compresses implementation timelines from months to weeks. Standardized software modules integrate seamlessly with existing PLC and SCADA systems, enabling customers to activate new control loops without disrupting ongoing production. Dedicated onboarding teams work alongside plant engineers to calibrate objectives, train operators, and validate early performance. Each engagement follows a repeatable stage-gate process that ensures both speed and precision—allowing customers to achieve measurable results quickly and expand with confidence.

Innovation culture is the second key enabler. Haber maintains a cross-disciplinary research environment that connects data scientists, process engineers, and domain experts. Partnerships with institutions like the Indian Institute of Technology Delhi and the University of British Columbia strengthen the company's ability to apply cutting-edge AI methods—such as physics-informed neural networks and meta-learning—to industrial contexts. Continuous learning loops built into Elixa and Mt.Fuji further reinforce this culture: every deployment contributes operational data that improves future models, accelerating the pace of improvement across all customer sites.

Through this integration of human-centered design, agile deployment, and scientific rigor, Haber created a model of industrial innovation that delivers practical, repeatable results. The company demonstrates that achieving autonomy in process control requires more than algorithms; it depends on designing systems that operators trust, engineers can manage, and enterprises can scale sustainably.

Frost & Sullivan commends Haber for institutionalizing innovation discipline within the industrial AI sector. By translating AI research into real-time performance gains, the company exemplifies how operational excellence and technological leadership can reinforce each other—establishing a blueprint for intelligent automation that others will follow.

Pathway to Global Leadership: Scaling Innovation and Trust

Haber's trajectory reflects the maturity of a company built to scale innovation globally. Its expansion into the United States and the Middle East demonstrates both the universality of its technology and the trust it commands among enterprise clients. In each new geography, the company integrates Elixa and Mt.Fuji into complex operational environments with varying regulatory frameworks, proving its adaptability and

reliability. These regions now represent key growth engines, supported by partnerships that align with local industrial modernization and sustainability agendas.

The company's financial performance mirrors this operational reach. A strong annual recurring revenue base underscores the long-term value customers derive from Elixia and Mt.Fuji, while consistent renewals confirm the system's sustained performance in production environments. Haber complements this commercial strength with strategic reinvestment in innovation—evident in an eightfold expansion of its research and development laboratory capacity, which broadens experimentation in edge analytics, advanced control theory, and adaptive algorithms. This disciplined approach ensures that scaling the business does not dilute its technical edge.

Global leadership also depends on maintaining alignment between growth and purpose. Haber achieves this by linking profitability directly to measurable customer outcomes such as resource savings, process stability, and reduced environmental impact. This value-linked growth model strengthens enterprise partnerships, as customers view Haber not merely as a software license but as a shared efficiency platform that compounds benefits over time. The approach reinforces trust, encourages multi-site rollouts, and embeds Haber's technology into core operational strategies.

Looking ahead, the company's combination of AI expertise, proven deployment success, and sustainability-driven vision positions it to shape global standards for intelligent process control. As industries worldwide seek to balance efficiency with environmental responsibility, Haber offers a roadmap grounded in real performance data and field-tested results. Its evolution from regional innovator to global enabler marks a decisive step toward redefining how factories learn, adapt, and compete in the age of intelligent automation.

Conclusion

Haber's journey illustrates how intelligent automation can evolve from concept to industrial standard through disciplined innovation, measurable value creation, and customer trust. By addressing the operational realities that limit traditional control systems—variable inputs, workforce attrition, and resource inefficiency—the company redefined what artificial intelligence (AI) can accomplish inside the plant environment. Elixia and Mt.Fuji unites advanced analytics, process understanding, and adaptive control into a single framework that learns continuously and performs reliably across industries.

The company's consistent delivery of financial and environmental results validates its vision of automation as a performance partnership rather than a technology transaction. Each deployment strengthens the connection between AI capability and human expertise, proving that sustainable growth emerges when both advance together. With a growing international footprint and an expanding base of enterprise clients, Haber stands at the forefront of a global shift toward proactive, self-optimizing operations.

With its strong overall performance, Haber earns Frost & Sullivan's 2025 Global Technology Innovation Leadership Recognition in the industrial AI landscape.

What You Need to Know about the Technology Innovation Leadership Recognition

Frost & Sullivan's Technology Innovation Recognition identifies the company that has introduced the best underlying technology for achieving remarkable product and customer success while driving future business value.

Best Practices Recognition Analysis

For the Technology Innovation Leadership Recognition, Frost & Sullivan analysts independently evaluated the criteria listed below.

Technology Leverage

Commitment to Innovation: Continuous emerging technology adoption and creation enables new product development and enhances product performance

Commitment to Creativity: Company leverages technology advancements to push the limits of form and function in the pursuit of white space innovation

Stage Gate Efficiency: Technology adoption enhances the stage gate process for launching new products and solutions

Commercialization: Company displays a proven track record of taking new technologies to market with a high success rate

Application Diversity: Company develops and/or integrates technology that serves multiple applications and multiple environments

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

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

