

KEO (*Kunumi Engine Optimization*): the agentic AI platform for search, answer, and generative discovery

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1. Strategic context of KEO

Digital discovery is undergoing a structural transformation. Customers, executives, researchers, and purchasing teams no longer rely exclusively on traditional search engines. They increasingly use Large Language Models, answer engines, AI assistants, and autonomous agents to research companies, compare solutions, evaluate technical authority, and support purchasing decisions.

KEO proposes a new strategic capability for this environment: an agentic AI platform designed to optimize how corporate knowledge is discovered, interpreted, cited, and recommended across Google, ChatGPT, Gemini, Perplexity, and emerging AI-driven interfaces.

- **From rankings to influence:** Visibility will no longer depend only on appearing in search results, but also on being selected as a trusted source by generative systems;
- **From keywords to semantic authority:** Organizations must demonstrate expertise across interconnected topics, entities, evidence, questions, and user intentions;
- **From content production to knowledge engineering:** Competitive advantage will come from continuously transforming proprietary expertise into structured, reliable, and discoverable digital assets;
- **From channel-specific optimization to multimotor optimization:** Companies will require a unified strategy for SEO, Answer Engine Optimization, Generative Engine Optimization, and future agent-based discovery channels.

KEO is therefore not simply a content automation solution. It is a strategic intelligence platform for building and measuring digital authority in the next generation of information discovery.

2. Market problems and current gaps in brand visibility

The fragmentation of digital discovery creates a material business risk. A company may hold strong technical expertise and valuable proprietary knowledge while remaining invisible to the systems increasingly responsible for influencing market perception and purchasing decisions.

- **Declining control over discovery:** Generative platforms synthesize answers from multiple sources, reducing the direct visibility traditionally obtained through website clicks;

- **Unmeasured AI visibility:** Most organizations cannot determine how frequently their brands, products, research, or executives appear in AI-generated answers;
- **Weak citation authority:** Corporate content is often promotional, semantically fragmented, or insufficiently supported by evidence, making it less likely to be cited by search and generative systems;
- **Inconsistent market positioning:** Different engines may present incomplete, outdated, or conflicting descriptions of the same company;
- **Growing dependency on paid acquisition:** Organizations that fail to build organic and generative authority become increasingly dependent on media investment to maintain demand generation;
- **Loss of strategic influence:** When competitors become the sources used by AI systems, they indirectly shape how the entire market understands problems, technologies, and purchasing criteria.

KEO addresses this gap by giving organizations the ability to systematically create, distribute, evaluate, and improve their presence across the complete digital discovery ecosystem.

3. General objective

Develop and scientifically validate an enterprise-grade agentic AI platform capable of increasing the visibility, authority, citation potential, and commercial impact of corporate knowledge across traditional search engines, answer engines, Large Language Models, and emerging autonomous discovery systems.

The platform must combine scientific rigor, product scalability, measurable business impact, security, and governance, enabling Kunumi to establish a new global category of AI-powered discovery optimization.

4. Specific objectives

- **Develop a multimotor optimization methodology** integrating SEO, AEO, GEO, semantic search, and AI-agent discovery;
- **Build specialized AI agents** for market intelligence, search intent, keyword research, semantic modeling, evidence gathering, content architecture, editorial validation, distribution, and performance measurement;
- **Create proprietary visibility metrics** for measuring brand presence, citation frequency, answer inclusion, recommendation quality, semantic authority, and competitive positioning;
- **Develop corporate knowledge models** that transform documents, research, product information, and institutional expertise into structured and reusable knowledge assets;
- **Implement continuous experimentation pipelines** to test causal relationships between optimization strategies and business outcomes;
- **Establish governance mechanisms** for factual reliability, source provenance, brand consistency, privacy, security, and human validation;
- **Validate the platform in high-value enterprise environments** before expanding into scalable commercial products;

- **Generate scientific assets** such as benchmarks, datasets, evaluation protocols, research publications, and proprietary optimization methods.

5. Expected strategic results

- **Creation of a new technology category:** Position Kunumi as a pioneer in integrated Search, Answer, and Generative Discovery Optimization;
- **Expansion of qualified organic demand:** Increase the discovery of brands, products, research, and solutions without equivalent growth in media spending;
- **Acceleration of commercial pipelines:** Convert informational searches and AI-assisted research into measurable business opportunities;
- **Strengthening of institutional authority:** Establish customers as trusted references within their industries and areas of expertise;
- **Development of recurring revenue:** Build scalable software, API, licensing, and managed-service offerings;
- **Creation of proprietary intellectual property:** Accumulate data, models, benchmarks, optimization policies, and market knowledge that become progressively more valuable;
- **Scientific leadership:** Produce research contributions in information retrieval, generative systems, semantic authority, AI evaluation, and multi-agent orchestration;
- **Strategic differentiation for Kunumi:** Connect advanced AI research directly to high-value commercial applications and global market expansion.

6. Why invest in KEO now?

The market is entering a limited window in which the standards, metrics, platforms, and dominant providers of generative discovery optimization have not yet been fully established.

- **Search behavior is changing faster than corporate capabilities:** Organizations are already being discovered through AI systems, but most lack structured strategies for managing this visibility;
- **Traditional SEO platforms are not designed for generative systems:** Existing tools primarily evaluate rankings, backlinks, and keywords rather than citations, synthesized answers, entity authority, and model-specific recommendations;
- **The first proprietary datasets will create lasting advantages:** Early deployments will produce valuable information about prompts, answers, citations, topic coverage, engine behavior, and optimization effectiveness;
- **Enterprise demand is emerging before standards mature:** Large companies need visibility, governance, and measurement solutions but currently face a fragmented vendor landscape;
- **The category may consolidate rapidly:** Once global software providers establish dominant platforms and data networks, entering the market will require significantly more capital and time.

Investing now gives Kunumi the opportunity to define the category rather than compete within standards established by others.

7. Strategic opportunity for Kunumi: transforming scientific research into a global growth platform

KEO is strongly aligned with Kunumi's ambition to combine scientific leadership, enterprise AI, and scalable market solutions.

- **Scientific research becomes a commercial asset:** Advances in NLP, information retrieval, generative AI, and multi-agent systems can be converted into recurring-revenue products;
- **The Bradesco ecosystem can provide a strategic proving ground:** Controlled enterprise deployments can validate security, governance, scale, and measurable business impact before broader commercialization;
- **Brazil and Latin America offer an initial competitive base:** The platform can address linguistic, cultural, and market conditions that remain underserved by global providers;
- **The architecture can expand internationally:** Language models, optimization agents, and evaluation frameworks can be adapted to additional markets, industries, and regulatory environments;
- **KEO strengthens Kunumi's market positioning:** The project demonstrates the company's capacity to transform frontier research into platforms directly connected to revenue, growth, and competitive advantage.

The initiative can become both a flagship commercial platform and a repeatable model for translating Kunumi's scientific capabilities into global products.

8. Value proposition: converting corporate knowledge into authority, qualified traffic, citations, and measurable demand

KEO transforms fragmented institutional knowledge into a continuously optimized digital authority system.

- **Greater discoverability:** Increase the probability that corporate content will be indexed, retrieved, cited, summarized, and recommended;
- **Higher-quality demand:** Connect content production to real customer questions, business problems, and purchase intentions;
- **Stronger authority:** Build structured topic coverage that demonstrates expertise instead of producing isolated promotional content;
- **Measurable generative presence:** Track how brands, products, experts, and research appear across AI-generated answers;
- **Faster knowledge activation:** Convert internal documents, technical expertise, market intelligence, and research into external assets;
- **Lower marginal production cost:** Scale high-quality knowledge creation without proportional expansion of editorial and marketing teams;
- **Continuous optimization:** Use performance data and controlled experimentation to improve content, distribution, and positioning over time.

The central value proposition is the creation of a proprietary engine that converts organizational knowledge into measurable market influence.

9. High-value corporate applications

- **Marketing:** Build semantic authority, increase qualified traffic, improve campaign efficiency, and reduce dependency on paid acquisition;
- **Sales:** Produce decision-oriented content, comparison materials, technical explanations, objection responses, and industry-specific sales assets;
- **Corporate reputation:** Strengthen how companies, executives, and scientific initiatives are represented in search and AI-generated answers;
- **Research and innovation:** Transform scientific results into accessible, credible, and strategically positioned market knowledge;
- **Product management:** Detect unmet information needs, emerging customer questions, competitive gaps, and opportunities for new products;
- **Customer service:** Convert recurring customer questions into reliable knowledge assets that improve both self-service and AI-assisted support;
- **Competitive intelligence:** Monitor changes in competitor visibility, topic ownership, citations, positioning, and share of AI-generated answers;
- **Investor relations:** Improve the discoverability and consistency of corporate strategy, innovation initiatives, performance narratives, and market differentiation;
- **Regulated industries:** Create auditable and governed knowledge workflows for financial services, healthcare, insurance, telecommunications, and other high-risk sectors.

10. Market potential: creating a new category for SEO, AEO, GEO, and LLM visibility

KEO addresses the convergence of several established and emerging markets: SEO software, content intelligence, marketing automation, generative AI platforms, enterprise knowledge management, analytics, and digital reputation.

The strategic opportunity is not limited to competing with traditional SEO tools. KEO can define a broader category centered on **Enterprise Discovery Intelligence**.

- **Large addressable customer base:** Every organization dependent on digital discovery, technical authority, reputation, or inbound demand is a potential customer;
- **High enterprise relevance:** Complex organizations require governance, integrations, multilingual capabilities, data security, and reliable attribution;
- **Cross-industry applicability:** The same core platform can support finance, technology, healthcare, retail, education, industry, agribusiness, and professional services;
- **International scalability:** The underlying problem exists across languages, markets, and business models;
- **Expanding strategic importance:** As AI systems become intermediaries between companies and customers, visibility within these systems becomes a board-level concern.

KEO can occupy the intersection between marketing technology, enterprise AI, scientific intelligence, and corporate knowledge infrastructure.

11. New products and revenue models

- **Enterprise SaaS platform:** Subscription-based access to optimization workflows, visibility analytics, content intelligence, and governance capabilities;
- **Specialized APIs:** Programmatic access to semantic analysis, topic modeling, citation evaluation, content scoring, and AI-visibility measurement;
- **Enterprise licensing:** Private-cloud or dedicated deployments for customers requiring greater control, security, and customization;
- **Managed optimization services:** Continuous operation of the platform by Kunumi specialists for strategic enterprise accounts;
- **Industry-specific solutions:** Preconfigured products for financial services, healthcare, technology, retail, and other priority sectors;
- **Data and benchmark products:** Access to anonymized market intelligence, visibility indexes, citation trends, and competitive benchmarks;
- **Professional services:** Strategic implementation, knowledge architecture, integration, governance, and organizational enablement;
- **Revenue-sharing agreements:** Performance-linked commercial models based on qualified demand, pipeline contribution, or measurable digital growth;
- **Research partnerships:** Joint development programs with universities, research centers, technology companies, and strategic customers.

This product portfolio allows Kunumi to combine recurring revenue, high-margin services, enterprise contracts, and long-term intellectual property creation.

12. Scalability and operational leverage

KEO is designed to separate business growth from proportional growth in human production capacity.

- **Reusable multi-agent workflows:** Specialized agents can execute repeatable research, analysis, production, validation, and measurement processes;
- **Shared intelligence across customers:** Core models, benchmarks, evaluation methods, and orchestration components can serve multiple implementations;
- **Modular architecture:** Capabilities can be activated according to customer maturity, industry, language, and integration requirements;
- **Knowledge reuse:** Research, evidence, topic structures, and validated content components can be repurposed across channels and formats;
- **Automated quality controls:** Standardized evaluation reduces dependence on manual review while preserving human approval for high-impact outputs;
- **Continuous learning:** Every authorized deployment improves the platform's optimization policies, benchmarks, and operational knowledge;
- **Global delivery potential:** Software-based delivery enables international expansion without replicating the complete operational structure in every country.

The result is a platform capable of supporting significant revenue growth while maintaining attractive unit economics and operational control.

13. Financial impact and business indicators

KEO must be evaluated through measurable business outcomes rather than content volume alone.

- **Revenue impact:** Incremental revenue, influenced pipeline, qualified opportunities, conversion rate, average contract value, and expansion revenue;
- **Acquisition efficiency:** Customer acquisition cost, organic acquisition contribution, paid-media dependency, lead cost, and acquisition payback;
- **Digital authority:** Share of Search, Share of AI Answers, citation frequency, source inclusion rate, topic ownership, and competitive visibility;
- **Commercial performance:** Lead-to-opportunity conversion, opportunity velocity, sales-cycle duration, assisted conversions, and win rate;
- **Operational efficiency:** Cost per knowledge asset, production cycle time, revision rate, automation rate, and human hours saved;
- **Product economics:** Annual recurring revenue, gross margin, retention, net revenue retention, deployment cost, and inference cost;
- **Quality and trust:** Factual accuracy, source coverage, editorial approval rate, brand consistency, and misinformation incidents;
- **Scientific performance:** Benchmark improvement, generalization across engines, reproducibility, publication output, and creation of proprietary intellectual property.

Initial pilots must establish baselines and causal measurement protocols before financial impacts are projected at scale.

14. Competitive advantage and barriers to entry

KEO's defensibility will be created through cumulative assets that become more difficult to replicate with each deployment.

- **Proprietary visibility datasets:** Historical records of prompts, answers, citations, rankings, entities, topics, and model behavior;
- **Exclusive benchmarks:** Evaluation methods for measuring optimization performance across search engines and generative platforms;
- **Specialized agents:** Domain-specific agents with proprietary workflows, memory, policies, validation mechanisms, and optimization knowledge;
- **Continuous learning loops:** Every experiment produces evidence that improves future decisions and optimization strategies;
- **Enterprise integrations:** Connections to knowledge repositories, analytics platforms, content systems, CRM, and corporate data environments;
- **Scientific know-how:** A multidisciplinary combination of information retrieval, NLP, experimentation, agentic AI, product engineering, and business strategy;
- **Governance by design:** Enterprise-grade reliability, auditability, and security embedded directly into the platform;
- **Regional and linguistic specialization:** Strong initial capability in Portuguese and Latin American markets, followed by multilingual expansion.

The moat will not come from a single language model. It will come from the integration of proprietary data, research, software, processes, experimentation, and enterprise adoption.

15. Long-term strategic advantage: building Latin America's proprietary digital authority engine

In the long term, KEO can evolve from an optimization platform into the intelligence layer that determines how organizations structure, publish, and activate knowledge.

- **A proprietary authority graph:** Map relationships among companies, products, experts, research, topics, sources, questions, and market needs;
- **A continuous market-sensing system:** Identify emerging demand, new terminology, competitive movements, and knowledge gaps;
- **A product discovery engine:** Use search and generative behavior to reveal unmet needs and guide product strategy;
- **An international platform:** Expand through multilingual models, regional benchmarks, and market-specific optimization policies;
- **A strategic data asset:** Accumulate longitudinal intelligence about how information is retrieved, synthesized, cited, and converted into business decisions;
- **An ecosystem foundation:** Enable partners, agencies, developers, and enterprise teams to build specialized applications on top of KEO.

This creates a durable strategic position for Kunumi at the intersection of AI, knowledge, discovery, and corporate growth.

16. Scientific foundation

KEO will integrate multiple scientific disciplines into a unified applied research program.

- **Information retrieval:** Indexing, retrieval, ranking, query understanding, relevance estimation, and evaluation;
- **Natural Language Processing:** Entity recognition, semantic similarity, argument analysis, summarization, classification, and language generation;
- **Topic modeling:** Identification of semantic structures, content clusters, knowledge gaps, and authority coverage;
- **Semantic search:** Retrieval based on meaning, context, intent, and entity relationships rather than exact keywords;
- **Knowledge representation:** Construction of structured relationships among sources, claims, topics, products, organizations, and evidence;
- **Multi-agent systems:** Coordination of specialized agents responsible for planning, research, generation, validation, distribution, and measurement;
- **Causal inference and experimentation:** Measurement of incremental impact rather than reliance on correlation-based performance claims;
- **Human-AI collaboration:** Allocation of responsibilities between autonomous systems and human experts according to risk and business importance.

The scientific objective is to create methods that are both publishable and operationally relevant, ensuring that research advances can be converted into scalable products.

17. State of the art and scientific gaps in AEO and GEO

Current approaches remain fragmented and methodologically immature.

- **Limited causal evidence:** Many optimization recommendations are based on observations rather than controlled experiments;
- **Platform opacity:** Generative engines do not fully disclose how sources are selected, weighted, cited, or excluded;
- **High output variability:** The same question can generate different answers according to model, version, prompt, user context, and retrieval configuration;
- **Weak standardization:** The market lacks widely accepted metrics for AI visibility, citation authority, recommendation quality, and answer share;
- **Insufficient multimotor optimization:** Most tools focus on either traditional search or generative platforms rather than optimizing both simultaneously;
- **Limited enterprise governance:** Existing solutions frequently lack provenance controls, approval workflows, security, access management, and auditability;
- **Inadequate multilingual research:** Most available studies and tools prioritize English-language environments;
- **Weak business attribution:** Organizations cannot reliably connect AI visibility to pipeline, conversion, revenue, or customer acquisition efficiency.

KEO will address these gaps through systematic measurement, proprietary benchmarks, multimotor experimentation, and enterprise-scale validation.

18. Scientific and technological differentiators

- **Multimotor optimization:** Simultaneous evaluation and optimization across traditional search, answer engines, LLMs, and autonomous agents;
- **Context management:** Structured use of organizational knowledge, market signals, previous decisions, evidence, and user intent;
- **Citation intelligence:** Evaluation of which sources are cited, why they are selected, and how citation probability can be improved;
- **Agentic orchestration:** Specialized agents collaborate through defined responsibilities, shared context, validation gates, and escalation policies;
- **Evidence-centered generation:** Content is built around verifiable claims, source provenance, semantic completeness, and decision relevance;
- **Closed-loop experimentation:** Outputs are continuously connected to visibility, engagement, pipeline, and revenue indicators;
- **Model-independent architecture:** The platform can operate across different model providers and adapt as the ecosystem evolves;
- **Multilingual and cross-cultural optimization:** Methods can be calibrated for language, geography, industry, and local search behavior;
- **Explainable recommendations:** The platform must show why an optimization is recommended and what evidence supports it;
- **Human-in-the-loop by risk:** Human participation is dynamically required according to factual sensitivity, brand exposure, regulation, and commercial impact.

19. Conceptual architecture of the solution

KEO will operate as a modular platform composed of coordinated intelligence layers.

- **Strategy agents:** Translate business objectives, target audiences, products, and competitive priorities into optimization plans;
- **Research agents:** Collect market signals, customer questions, competitor positioning, scientific sources, and supporting evidence;
- **Intent agents:** Model informational, commercial, transactional, comparative, and decision-oriented search behavior;
- **Semantic agents:** Build topic structures, entity relationships, authority maps, knowledge gaps, and content clusters;
- **Content architecture agents:** Design narratives, arguments, evidence structures, questions, summaries, and reusable knowledge components;
- **Validation agents:** Evaluate factual accuracy, source quality, semantic coverage, brand alignment, originality, and regulatory constraints;
- **Distribution agents:** Adapt and publish approved assets across websites, knowledge bases, product pages, social channels, and partner ecosystems;
- **Measurement agents:** Monitor rankings, citations, answers, engagement, pipeline influence, conversion, and competitive position;
- **Experimentation agents:** Define hypotheses, assign test groups, compare strategies, and recommend scale, revision, or rollback;
- **Governance layer:** Control identity, access, policies, audit logs, data use, model selection, approvals, and incident management.

The modular design will allow Kunumi to evolve individual capabilities without creating dependency on a single model, channel, or optimization technique.

20. Research methodology and experimental validation

The project will follow an evidence-driven methodology organized around explicit hypotheses, controlled development cycles, and measurable decision gates.

- **Baseline construction:** Measure current rankings, citations, answer inclusion, topic coverage, qualified traffic, pipeline contribution, and production costs;
- **Benchmark development:** Create repeatable datasets and evaluation protocols across engines, models, industries, languages, and query types;
- **Prototype validation:** Compare multi-agent workflows with traditional editorial processes and single-model generation;
- **Controlled pilots:** Test optimization strategies through A/B experiments, time-series analysis, matched comparisons, and quasi-experimental designs;
- **Business attribution:** Connect visibility improvements to engagement, lead generation, pipeline, conversion, and revenue wherever technically possible;
- **Robustness evaluation:** Measure performance under model updates, prompt variation, retrieval changes, data drift, and competitive responses;
- **Scale validation:** Evaluate latency, inference cost, throughput, reliability, integration complexity, human-review demand, and service-level requirements;
- **Decision governance:** Establish objective criteria for continuation, expansion, redesign, suspension, and rollback.

Priority research hypotheses include whether multi-agent optimization outperforms single-model approaches, whether evidence-centered content improves citation probability,

whether multimotor strategies produce stronger cumulative authority, and whether closed-loop experimentation sustains performance over time.

Future research should explore causal models of generative citation, multimodal discovery, reinforcement learning for optimization policies, autonomous knowledge maintenance, cross-model generalization, and prediction of emerging market demand.

21. Governance, security, and reliability

Trust must be treated as a product capability and a source of competitive advantage, not as a final compliance layer.

- **Human-in-the-loop controls:** High-impact, regulated, reputational, or scientifically sensitive outputs require qualified human approval;
- **Source provenance:** Every material claim must be connected to identifiable and auditable evidence;
- **Factual reliability:** Automated validation must detect unsupported claims, contradictions, outdated information, and source-quality problems;
- **Brand integrity:** Tone, terminology, positioning, legal restrictions, and corporate identity must be consistently enforced;
- **Security and access management:** Corporate knowledge, prompts, models, and outputs must be protected through role-based controls and secure integration patterns;
- **Privacy and data minimization:** The platform must process only the information necessary for defined and authorized purposes;
- **Model governance:** Model versions, configurations, prompts, tools, decisions, and performance must remain traceable;
- **Misinformation control:** Publication workflows must prevent fabricated sources, misleading claims, manipulation, and uncontrolled autonomous distribution;
- **Continuous monitoring:** Performance degradation, abnormal behavior, security incidents, and reputational risks must trigger alerts and intervention procedures;
- **Responsible optimization:** KEO must increase legitimate authority and discoverability without employing deceptive, manipulative, or low-quality content practices.

By integrating governance into the platform architecture, Kunumi can meet enterprise requirements while differentiating KEO from less controlled generative content solutions.

22. Investment rationale

KEO represents an opportunity to create critical infrastructure for the next generation of digital discovery. The project addresses a rapidly expanding enterprise problem, applies Kunumi's scientific capabilities to a commercially scalable platform, and creates multiple layers of defensibility through proprietary data, benchmarks, agentic workflows, integrations, and continuous experimentation.

The strategic risk is not limited to whether Kunumi enters this market. The greater risk is entering after global competitors have accumulated the datasets, customer relationships, optimization knowledge, and standards required to dominate it.

A substantial, phased investment would allow Kunumi to move simultaneously across research, product development, enterprise validation, data acquisition, and international commercialization. The objective is to establish KEO not as another content platform, but as the proprietary intelligence engine through which companies build authority, influence AI-mediated decisions, and convert knowledge into measurable growth.