

Enterprise Artificial Intelligence in the Smart Cities Era: A Comprehensive Analysis of Custom LLMs, Tailored IaaS, and Autonomous Agents for Sustainable Digital Transformation

Author: NowGo AI

Date: July 2025

Keywords: Enterprise Artificial Intelligence, Custom LLMs, IaaS, Smart Cities, Autonomous Agents, Digital Transformation

Abstract

Artificial intelligence (AI) is redefining the global business landscape, with the market projected to reach USD 4.8 trillion by 2033. This article presents a comprehensive analysis of practical AI applications in enterprises, focusing on the creation of custom large language models (LLMs), tailored infrastructure as a service (IaaS), and integration with smart cities through autonomous agents. Using NowGo AI as the main case study, this research examines how specialized companies are developing personalized AI solutions to meet specific demands of medium and large organizations. The methodology combines document analysis, systematic literature review, and exploratory case study. Results indicate that 42% of large-scale companies have already actively implemented AI, with 38% growth expected for 2025. The research reveals that the convergence between enterprise AI and smart cities, mediated by autonomous agents, represents a significant opportunity for sustainable digital transformation. Main contributions include a conceptual framework for enterprise AI implementation, detailed analysis of LLM customization methodologies, and identification of synergies between corporate solutions and intelligent urban infrastructure.

1. Introduction

1.1 Global Context of Artificial Intelligence

Artificial intelligence has emerged as one of the most significant transformative forces of the 21st century, fundamentally reshaping how businesses operate, cities function, and societies organize. The global AI market, valued at USD 638.23 billion in 2025, is projected to reach USD 4.8 trillion by 2033, representing a compound annual growth rate (CAGR) of 29.2% [1]. This exponential expansion reflects not only technological maturation but also a growing understanding that AI is not merely an additional tool but a fundamental catalyst for sustainable digital transformation.

The current landscape of enterprise AI adoption reveals an unprecedented acceleration. Recent data indicates that 42% of large-scale companies, with over 1,000 employees, have already actively implemented AI solutions in their operations [2]. This statistic represents a significant milestone, demonstrating that AI has transcended the experimental phase to become a strategic necessity. In parallel, investment in generative AI has reached USD 33.9 billion globally, registering an 18.7% growth over the previous year [3], highlighting the market's growing confidence in the transformative capabilities of this technology.

The geographical distribution of AI adoption reveals interesting patterns that reflect different regional approaches to technological innovation. India leads globally with 59% of companies implementing AI [4], followed by mature markets like the United States and Europe, which focus on more sophisticated applications and ethical regulation. Latin America, represented by companies like NowGo AI, is emerging as an innovation hub, combining technical expertise with a deep understanding of local and regional needs.

The impact of AI extends far beyond traditional corporate boundaries. Approximately 40% of global jobs will be affected by AI [5], not necessarily through replacement, but primarily through augmentation and transformation of existing roles. This reality requires a holistic approach that considers not only operational efficiency but also the social, ethical, and economic implications of AI implementation.

1.2 Problem Statement and Justification

Despite exponential growth and evident opportunities, the effective implementation of enterprise AI faces significant challenges that limit its transformative potential. The gap between the availability of generic AI technologies and the specific needs of organizations represents one of the main obstacles to successful adoption. Many companies find that "off-the-shelf" AI solutions do not adequately address the complexities of their business processes, proprietary data, and specific regulatory requirements.

Customization emerges as a critical success factor. Generic large language models (LLMs), while powerful, often lack the specificity needed to understand industry-specific terminologies, unique business contexts, and regional cultural nuances. This limitation is particularly evident in highly regulated sectors such as healthcare, finance, and energy, where accuracy and compliance are fundamental.

Simultaneously, traditional technological infrastructure is often unprepared to support the computational and data demands of modern AI applications. The need for tailored Infrastructure as a Service (IaaS) becomes evident when organizations seek to implement AI solutions that are simultaneously scalable, secure, and economically viable.

The convergence between enterprise AI and smart city development presents unexplored opportunities. Smart cities increasingly rely on AI technologies to optimize resources, improve public services, and promote sustainability. However, the integration between corporate AI solutions and intelligent urban infrastructure remains fragmented, limiting the potential for synergy between the public and private sectors.

Autonomous agents represent an emerging frontier that promises to revolutionize both business operations and urban management. These systems, capable of perceiving, reasoning, and acting independently, offer automation and optimization possibilities that transcend the capabilities of traditional systems. However, their effective implementation requires robust conceptual frameworks, careful ethical considerations, and harmonious integration with existing systems.

1.3 Objectives

1.3.1 General Objective

This study aims to comprehensively analyze the practical application of artificial intelligence in enterprises, with a specific focus on the creation of custom LLMs, implementation of tailored IaaS, and integration with smart cities through autonomous agents, using NowGo AI's experience as a primary reference to understand effective methodologies for sustainable digital transformation.

1.3.2 Specific Objectives

- To examine the current landscape of enterprise AI, identifying global trends, adoption patterns, and critical success factors that determine the effectiveness of implementations.
- To analyze in detail the methodologies for creating and implementing custom LLMs, including fine-tuning, Retrieval-Augmented Generation (RAG), and prompt engineering.
- To examine the evolution and implementation of tailored IaaS solutions, analyzing how organizations can develop technological infrastructures that specifically meet their AI needs.
- To investigate the integration between enterprise AI and smart cities, exploring how autonomous agents can serve as a bridge between corporate solutions and urban infrastructure.
- To develop a conceptual framework to guide organizations in the effective implementation of personalized AI solutions, considering technical, organizational, ethical, and social aspects.

1.4 Structure of the Work

This article is organized into eleven main sections that progressively address the theoretical, methodological, and practical aspects of enterprise AI in the era of smart cities. The structure is designed to provide a holistic understanding that ranges from conceptual foundations to practical applications and future perspectives.

2. Theoretical Foundation

2.1 Enterprise Artificial Intelligence

Enterprise artificial intelligence represents the integration of advanced AI-driven technologies and techniques into large organizations to enhance various business functions [6]. This definition encapsulates a fundamental transformation in how organizations conceive, implement, and manage operational processes. Enterprise AI transcends simple task automation, evolving into cognitive systems capable of learning, adaptation, and complex decision-making.

2.2 Large Language Models (LLMs)

Large language models represent one of the most significant innovations in artificial intelligence in the last decade. These systems, trained on vast text corpora, demonstrate emerging capabilities that transcend traditional natural language processing. The transformer architecture, introduced in 2017, provided the technological foundation that made the development of LLMs with billions or trillions of parameters possible [7].

2.3 Infrastructure as a Service (IaaS)

Infrastructure as a Service represents a cloud computing model that provides virtualized infrastructure resources on demand over the internet [8]. This model allows organizations to access computational, storage, and networking capabilities without significant investments in physical hardware. The evolution from generic IaaS to customized solutions reflects the growing sophistication of business demands and the need for infrastructures that meet specific requirements.

2.4 Smart Cities

The concept of smart cities has evolved significantly from its initial focus on technological efficiency to a more holistic vision that integrates sustainability, social inclusion, and quality of life [9]. A contemporary smart city is defined as an urban model that leverages technology, human capital, and governance to improve sustainability, efficiency, and social inclusion.

2.5 Autonomous Agents

The theory of autonomous agents is based on principles of distributed artificial intelligence and complex adaptive systems [10]. An autonomous agent is defined as a computational system situated in an environment that is capable of flexible autonomous action to meet its design objectives. This definition encapsulates four fundamental characteristics: autonomy, reactivity, proactivity, and social ability.

3. Methodology

3.1 Research Approach

This research adopts a qualitative exploratory and descriptive approach, combining systematic document analysis with an in-depth case study. The methodological choice is justified by the emerging and multidisciplinary nature of the phenomenon studied, which requires a holistic understanding of the interactions between technology, organizations, and urban contexts.

3.2 Data Collection

Data collection was structured into three main components: analysis of primary sources, systematic literature review, and collection of secondary data from specialized databases. This multi-source strategy ensures comprehensive coverage of the investigated topics while maintaining methodological rigor appropriate for academic research.

3.3 Data Analysis

Data analysis followed a thematic content analysis approach, combining deductive and inductive techniques to identify relevant patterns, themes, and insights. The analysis process was structured in several sequential phases that ensured methodological rigor and analytical depth.

4. Case Study: NowGo AI

4.1 Company Profile

NowGo AI emerges as a paradigmatic example of how specialized companies are redefining the implementation of artificial intelligence in the Brazilian and Latin American business context. Founded with the mission of making artificial intelligence accessible and practical for medium and large organizations, the company is strategically positioned at the intersection of global technological innovation and specific regional market needs [12].

4.2 Solutions Offered

The NowGo AI solutions portfolio reflects a sophisticated understanding of contemporary business needs, combining advanced technical capabilities with practical applicability. Each solution was developed to address specific challenges that organizations face in their digital transformation journey, offering tangible and measurable value.

4.3 Strategic Partnerships

NowGo AI's partnership with the NVIDIA Partner Network (NPN) represents a fundamental element of its competitive strategy and delivery capability [13]. This strategic collaboration provides exclusive access to NVIDIA's most advanced technologies, including specialized GPUs, development frameworks, and specialized technical support that are essential for the effective implementation of enterprise AI solutions.

4.4 Results and Impacts

The results achieved by NowGo AI demonstrate the transformative impact that well-implemented AI solutions can have on large-scale organizations and communities. The company's portfolio reflects not only commercial success but also revolutionary contributions to the development of the AI ecosystem in Brazil and Latin America, filling the critical gap between the advent of artificial intelligence and its practical implementation at scale.

5. Enterprise Artificial Intelligence: Practical Applications

5.1 Global Overview

The global landscape of enterprise artificial intelligence in 2025 is characterized by an unprecedented acceleration in the adoption and sophistication of implementations. Adoption statistics reveal a fundamental transformation in how organizations conceive and implement technology, with 42% of large-scale companies having already actively implemented AI in their operations [16].

5.2 Application Areas

The application areas of enterprise AI have expanded significantly beyond the traditional domains of automation and data analysis, now encompassing virtually all aspects of organizational operations. This expansion reflects both the maturation of AI technologies and the growing organizational understanding of how these technologies can create value.

5.3 Benefits and Challenges

The benefits of effective enterprise AI implementations are multifaceted and often exceed organizations' initial expectations. Operational efficiency represents the most immediately observable benefit, with organizations reporting significant reductions in processing time, operational costs, and error rates in automated processes.

5.4 Sectoral Use Cases

The application of enterprise AI varies significantly across sectors, reflecting the different needs, regulations, and specific opportunities of each industry. This sectoral variation offers valuable insights into how organizations can adapt AI implementations to maximize value in their specific contexts.

6. Custom LLMs for Enterprises

6.1 Need for Customization

The need for customization of large language models (LLMs) for enterprise applications arises from fundamental limitations of generic models that, although powerful, often lack the specificity needed to adequately address the complexities of unique organizational contexts.

6.2 Customization Methodologies

The methodologies for customizing LLMs have evolved significantly, offering multiple approaches that can be selected based on specific needs, available resources, and organizational objectives. Each methodology offers distinct advantages and limitations that must be carefully considered during implementation planning.

6.3 Practical Implementation

The practical implementation of custom LLMs requires careful planning and systematic execution that considers not only technical aspects but also organizational, operational, and strategic ones. The development process must be structured to ensure that the resulting solutions effectively meet organizational needs while maintaining appropriate standards of quality, security, and performance.

6.4 Success Cases

Success cases in the implementation of custom LLMs offer valuable insights into best practices, common challenges, and effective strategies that can inform future implementations. These examples demonstrate how organizations of different sectors and sizes have leveraged personalized LLMs to create tangible value and competitive advantages.

7. Tailored IaaS: Customized Infrastructure

7.1 Evolution of the IaaS Model

The evolution of Infrastructure as a Service (IaaS) from standardized generic offerings to tailored solutions reflects a fundamental maturation of both cloud technologies and organizational understanding of how infrastructure can be optimized for specific needs.

7.2 Customization Components

The customization components in IaaS cover multiple dimensions of the infrastructure, each offering opportunities for optimization based on the specific needs of workloads and organizational objectives. A detailed understanding of these components is essential for developing effective customization strategies that maximize value while controlling costs and complexity.

7.3 Business Evaluation Process

The business evaluation process for implementing tailored IaaS requires a systematic and comprehensive analysis that considers not only current technical requirements but also expected growth, evolving needs, and long-term strategic objectives.

7.4 Benefits and Considerations

The benefits of successful tailored IaaS implementations are multifaceted and often exceed organizations' initial expectations, offering not only immediate operational improvements but also strategic capabilities that can create sustainable competitive advantages.

8. Smart Cities: Integration of AI and Autonomous Agents

8.1 Global Overview of Smart Cities

The global landscape of smart cities in 2025 is characterized by a significant evolution from initial concepts focused on technological efficiency to holistic approaches that integrate sustainability, social inclusion, and quality of life as fundamental objectives.

8.2 AI Applications in Smart Cities

Artificial intelligence applications in smart cities cover virtually all aspects of urban management, offering optimization opportunities that can significantly improve urban quality of life while reducing operational costs and environmental impacts.

8.3 Autonomous Agents in Urban Environments

Autonomous agents represent a natural evolution of urban AI systems, offering decentralized decision-making and dynamic adaptation capabilities that can significantly improve the efficiency and resilience of urban systems.

8.4 Implementation Cases

Implementation cases of smart cities with AI and autonomous agent integration offer valuable insights into practical challenges, effective strategies, and achievable results. These examples demonstrate how different cities have approached the implementation of smart technologies based on their specific needs, available resources, and strategic objectives.

9. Business and Urban Integration: Synergy between Corporate AI and Smart Cities

9.1 Technology Convergence

The convergence between enterprise artificial intelligence and smart city technologies represents an emerging frontier that offers significant opportunities for value creation for both organizations and urban communities.

9.2 Innovation Ecosystems

Innovation ecosystems that integrate enterprise AI and smart cities are characterized by complex networks of relationships between private companies, public institutions, universities, and civil society organizations.

9.3 Socioeconomic Impacts

The socioeconomic impacts of the integration between enterprise AI and smart cities are broad and multifaceted, influencing not only operational efficiency and economic competitiveness but also quality of life, employment opportunities, and environmental sustainability.

9.4 Future Perspectives

Future perspectives for the integration between enterprise AI and smart cities are characterized by emerging trends that promise to accelerate convergence and create new opportunities for innovation and value creation.

10. Discussion

10.1 Synthesis of Results

The comprehensive analysis presented in this study reveals that enterprise artificial intelligence is undergoing a fundamental transformation, evolving from experimental

implementations to strategic solutions that redefine organizational operations and create new value opportunities.

10.2 Study Limitations

This study has several limitations that should be considered when interpreting the findings and applying the proposed recommendations. Methodological constraints include reliance on secondary sources for many analyses, time limitations that may not capture the latest developments, and a focus on a limited number of case studies that may not be representative of all organizational situations.

10.3 Implications for Managers

The implications of this study for business managers are multifaceted and require careful consideration of specific organizational contexts, available resources, and strategic objectives. The strategic recommendations emerge from the analysis of success cases and best practices identified throughout the investigation.

10.4 Contributions to Academia

The contributions of this study to academic literature include the development of integrated perspectives that connect traditionally separate domains, the identification of knowledge gaps that require further investigation, and the proposal of directions for future research that can advance theoretical and practical understanding.

11. Conclusions

11.1 Final Considerations

This study demonstrates that enterprise artificial intelligence is experiencing a fundamental transformation that transcends simple process automation to become a catalyst for organizational innovation and sustainable value creation. The comprehensive analysis presented reveals that success in implementing enterprise AI critically depends on personalized approaches that integrate technological sophistication with a deep understanding of specific organizational contexts.

11.2 Recommendations

The recommendations derived from this study are aimed at different stakeholders who play critical roles in the development and implementation of enterprise and urban AI solutions.

11.3 Future Perspectives

Future perspectives for enterprise AI and smart cities are characterized by emerging technological trends, evolving business models, and changing social expectations that promise to accelerate the adoption and sophistication of implementations.

12. NowGo AI Practical Implementation Portfolio: Bridging Theory and Reality

12.1 Urban Infrastructure Solutions: NowGo Urban Mirror

The NowGo Urban Mirror project represents a comprehensive approach to smart city management, focusing on water, energy, and sanitation systems. This platform integrates multiple urban management capabilities into a unified system that enhances citizen experience and urban efficiency.

12.2 Environmental Protection: Earth Guard and GEIH

The Earth Guard (Earth Sentinel) project represents a breakthrough in anticipatory disaster response, utilizing AI to monitor global environmental threats and coordinate response efforts. The Global Environmental Intelligence Hub (GEIH) complements Earth Guard by focusing specifically on ecosystem protection, particularly the Amazon rainforest and other critical global ecosystems.

12.3 Creative Industries and Digital Innovation: Twinverse Studios

Twinverse Studios represents NowGo AI's expansion into creative industries, demonstrating how AI can enhance human creativity rather than replace it. The platform enables the creation of interactive films, original music, digital twins, and cultural activations using advanced AI technologies.

12.4 Educational Innovation: AI-Based Schools

NowGo AI's development of 100% AI-based educational institutions represents a revolutionary approach to education that integrates artificial intelligence into all aspects of learning and administration.

12.5 Agribusiness Innovation: AI-Powered Agricultural Solutions

NowGo AI's expansion into the agribusiness sector represents a strategic recognition of agriculture's critical importance in the global economy and Brazil's position as a major agricultural producer. The company's AI solutions for agribusiness focus on precision agriculture, crop optimization, supply chain management, and sustainable farming practices that address the growing demand for food security while minimizing environmental impact.

The agricultural AI solutions integrate satellite imagery analysis, IoT sensors, and machine learning algorithms to provide farmers with real-time insights into crop health, soil conditions, weather patterns, and optimal planting and harvesting times. These systems can analyze vast amounts of agricultural data to identify patterns and anomalies that human observation might miss, enabling proactive decision-making that can significantly improve yields and reduce losses.

Precision agriculture applications include automated irrigation systems that optimize water usage based on soil moisture levels and weather forecasts, drone-based crop monitoring that can detect pest infestations or disease outbreaks in their early stages, and AI-powered equipment that can perform targeted interventions such as precision fertilizer application or selective harvesting.

Supply chain optimization represents another critical application area, where AI systems analyze market demands, transportation logistics, storage conditions, and quality parameters to minimize waste and maximize profitability. These solutions are particularly valuable in Brazil's vast agricultural landscape, where efficient logistics can mean the difference between profit and loss for agricultural producers.

The integration of AI in agribusiness also supports sustainability goals through optimized resource usage, reduced chemical inputs, and improved carbon footprint tracking. Machine learning algorithms can recommend crop rotation strategies, predict optimal planting densities, and suggest sustainable farming practices that maintain soil health while maximizing productivity.

12.6 Healthcare Revolution: First 100% AI-Based Hospital

The creation of the first 100% AI-based hospital in Latin America represents an unprecedented achievement in healthcare technology integration. This project integrates AI systems into all aspects of hospital operations, from automated diagnostics and predictive patient analysis to intelligent resource management and operational flow optimization.

12.7 Synthesis: Bridging the AI Implementation Gap

These practical implementations collectively demonstrate NowGo AI's comprehensive approach to solving real-world problems through AI across multiple critical sectors. The portfolio showcases the company's ability to bridge the gap between AI theory and practical implementation, serving high-impact startups, medium and large enterprises worth billions of dollars.

The diversity of applications—from urban infrastructure and environmental protection to creative industries, education, agribusiness, and healthcare—illustrates the versatility and scalability of AI solutions when properly implemented. Each project demonstrates different aspects of AI capability: predictive analytics in environmental monitoring, optimization algorithms in urban management, generative AI in creative industries, personalized learning in education, precision agriculture in agribusiness, and diagnostic assistance in healthcare.

The company's approach emphasizes the importance of understanding specific sector needs, regulatory requirements, and cultural contexts when implementing AI solutions. This sector-specific expertise, combined with technical excellence and strategic partnerships (particularly with NVIDIA), enables NowGo AI to deliver transformative results that create measurable value for organizations and communities.

The global reach of these projects, from local Brazilian implementations to international partnerships in Africa and environmental monitoring worldwide, demonstrates how AI solutions developed in emerging markets can have global impact and relevance. This positions NowGo AI as a significant player in the global AI ecosystem, contributing to the democratization of AI technology and its practical application for societal benefit.

References

- [1] Grand View Research. (2025). *Artificial Intelligence Market Size, Share & Trends Analysis Report*. [2] IBM. (2025). *Global AI Adoption Index 2025*. [3] McKinsey & Company. (2025). *The State of AI in 2025: Generative AI's Breakout Year*. [4] Deloitte. (2025). *State of AI in the Enterprise, 4th Edition*. [5] International Monetary Fund. (2024). *Artificial Intelligence and the Future of Work*. [6] Google Cloud. (2025). *What is Enterprise AI?* [7] Vaswani, A., et al. (2017). *Attention Is All You Need*. [8] Amazon Web Services. (2025). *What is Infrastructure as a Service (IaaS)?*. [9] United Nations. (2024). *World Cities Report 2024: Urban Futures*. [10] Russell, S., & Norvig, P. (2021). *Artificial Intelligence: A Modern Approach, 4th Edition*. [11] Wooldridge, M. (2020). *An Introduction to MultiAgent Systems, 3rd Edition*. [12] NowGo AI. (2025). *About Us - Company Profile*. [13] NVIDIA. (2025). *NVIDIA Partner Network*. [14] NowGo AI. (2025). *Our Impact - Project Statistics*. [15] NowGo AI. (2025). *Educational Partnerships and Social Impact*. [16] MIT Technology Review. (2025). *The State of Enterprise AI Adoption*. [17] Nasscom. (2025). *India AI Adoption Report 2025*. [18] Stanford University. (2025). *AI Index Report 2025*. [19] PwC. (2025). *Global Artificial Intelligence Study: Sizing the Prize*. [20] Salesforce. (2025). *State of Marketing Report: AI Edition*. [21] Accenture. (2025). *AI: Built to Scale - The Executive's Guide to AI*. [22] OpenAI. (2025). *Enterprise AI Implementation: Best Practices and ROI Analysis*. [23] Lewis, P., et al. (2020). *Retrieval-Augmented Generation for Knowledge-Intensive NLP Tasks*. [24] Brown, T., et al. (2020). *Language Models are Few-Shot Learners*. [25] JPMorgan Chase. (2024). *AI in Financial Services: Regulatory Compliance Case Study*. [26] Mayo Clinic. (2024). *AI in Healthcare: Diagnostic Assistance Implementation*. [27] General Electric. (2024). *Industrial AI: Manufacturing Optimization Case Study*. [28] Gartner. (2025). *Market Guide for Infrastructure as a Service, Worldwide*. [29] Smart Cities Council. (2025). *Smart Cities Readiness Guide*. [30] Ministério do Desenvolvimento Regional. (2024). *Carta Brasileira para Cidades Inteligentes*. [31] Smart Nation Singapore. (2025). *Digital Government Blueprint*. [32] Barcelona City Council. (2025). *Barcelona Digital City Plan 2020-2025*. [33] Connected Smart Cities. (2025). *Ranking Connected Smart Cities Brasil 2025*. [34] NowGo AI. (2025). *Urban Mirror - Modern Urban Solutions*. [35] NowGo AI. (2025). *Earth Guard - Anticipatory Disaster Response Platform*. [36] NowGo AI. (2025). *Global Environmental Intelligence Hub (GEIH)*. [37] NowGo AI. (2025). *Twinverse Studios - Create Films, Music, and Impact with AI*.
-

Appendices

Appendix A: Glossary of Terms

- **Autonomous Agents:** AI systems capable of perceiving, reasoning, and acting independently.
- **Smart Cities:** Urban spaces that use technology to improve sustainability, efficiency, and social inclusion.
- **Fine-tuning:** Adjusting a pre-trained AI model with specific data to improve performance.
- **IaaS (Infrastructure as a Service):** Cloud computing model providing virtualized infrastructure on demand.
- **Enterprise AI:** Integration of AI technologies into organizations to enhance business functions.
- **IoT (Internet of Things):** Network of connected physical devices that collect and share data.
- **LLM (Large Language Model):** AI models trained on vast text corpora with advanced NLP capabilities.
- **Prompt Engineering:** Optimizing instructions for LLMs to maximize output quality.
- **RAG (Retrieval-Augmented Generation):** Technique combining generative capabilities with information retrieval.
- **Multi-Agent Systems (MAS):** Networks of autonomous agents collaborating to manage complex processes.

Appendix B: Supplementary Data

Table B.1: Global AI Adoption Statistics (2025)

Region	Adoption Rate	Investment (USD Billion)	Annual Growth
India	59%	12.5	45%
United States	42%	33.9	18.7%
China	38%	28.2	32%
Europe	35%	15.8	22%
Latin America	28%	4.2	38%

Table B.2: AI Applications by Sector

Sector	Key Applications	Average ROI	Implementation Time
Finance	Fraud detection, Risk analysis	25-40%	6-12 months
Healthcare	Diagnostics, Drug discovery	30-50%	12-24 months
Manufacturing	Predictive maintenance, Quality control	20-35%	8-18 months
Energy	Smart grids, Distribution optimization	15-30%	12-36 months

Appendix C: Detailed Methodology

- **Source Selection Criteria:** Relevance, credibility, timeliness, data availability, diversity.
- **Content Analysis Process:** Initial coding, thematic categorization, interpretive synthesis, data triangulation, validation.
- **Methodological Limitations:** Reliance on secondary sources, time constraints, potential biases, generalization limits.

NowGo AI is a company specializing in artificial intelligence solutions for businesses, focused on making AI accessible and practical for medium and large organizations. Headquartered in Brasília, the company combines technical expertise with a deep understanding of business needs, offering customized solutions that include custom LLMs, robotic automation, and tailored infrastructure. NowGo AI is a partner of the NVIDIA Partner Network and has a significant impact on the development of AI talent through educational partnerships.

Article received: July 2025

Article accepted: July 2025

Published: July 2025

Keywords: Enterprise Artificial Intelligence, Custom LLMs, IaaS, Smart Cities, Autonomous Agents, Digital Transformation