

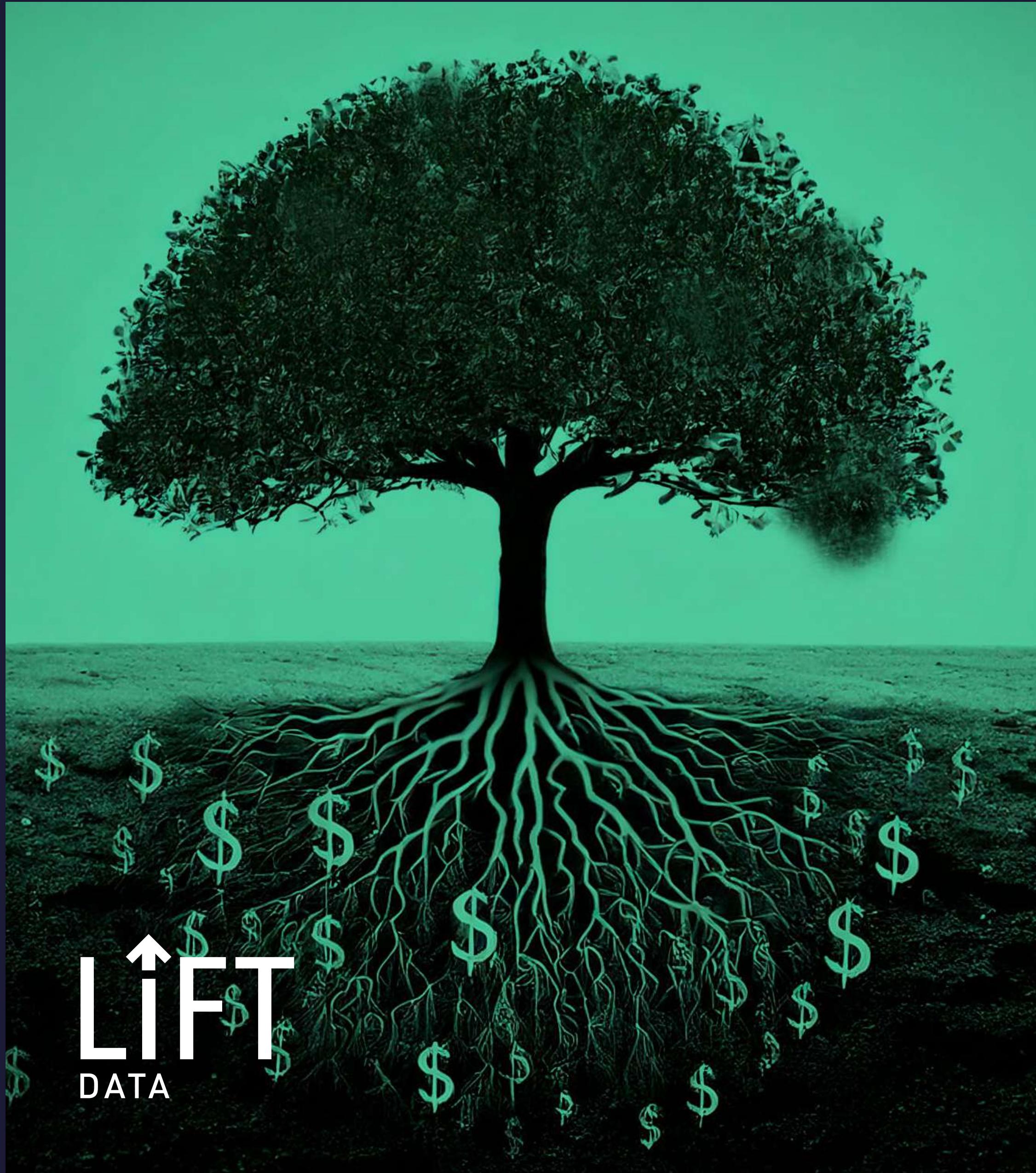
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## RESUMO EXECUTIVO

Uma síntese dos projetos do ecossistema LIFT e dos caminhos explorados ao longo do ciclo.

 **BANCO CENTRAL  
DO BRASIL**

**FENASBAC**  
INovaçāo



# ESGreen Insights – Dados para Sustentabilidade



## ABSTRACT

This project addresses the growing demand for ESG transparency and accountability in the global and Brazilian corporate landscape, where data validation and supply chain traceability present significant challenges for the financial sector. The ESGreen platform emerges as an innovative solution, offering a robust data intelligence system for ESG monitoring and evaluation.

Through its new NormaGeo module, ESGreen integrates georeferenced data on land and environmental compliance, such as deforestation, with existing cadastral, legal, and ESG risk information. This data fusion, powered by Artificial Intelligence for analysis and compliance checklists, and validated by blockchain technology to ensure immutability and auditability, provides a 360° view of socio-environmental risk profiles.

The platform empowers banks and financial institutions to conduct precise due diligence, identify high-risk suppliers, optimize credit and investment decisions, and ensure compliance with regulations like SARB 026 and EUDR. This fosters a more transparent and sustainable market, especially within the agribusiness sector. With NormaGeo, we offer the government, the market, and the global ecosystem a legitimate, transparent, and traceable window into what ESG means in Brazil.

### #KEYWORDS:

**ESG. SUSTAINABILITY. GEOTECHNOLOGY. BLOCKCHAIN. ARTIFICIAL INTELLIGENCE. SUSTAINABLE FINANCE. AGRIBUSINESS. COMPLIANCE.**



# 1

## PROPOSAL AND PURPOSE

ESGreen Insights project aims to offer a 360°, comprehensive, and detailed view of any entity's ESG risk and compliance profile. To achieve this, it intelligently integrates a vast range of automatically collected data, combining continuous monitoring with precise geospatial information.

From this data, a robust ESG risk score is built using the most advanced Artificial Intelligence to automate the analysis of compliance checklists. Furthermore, it employs blockchain technology to ensure the traceability and immutability of source data, providing an unprecedented level of trust and transparency.

This innovative approach not only optimizes internal management but also complies with global regulations, such as the EUDR (European Union Deforestation Regulation), ensuring that companies are prepared for increasing international regulatory demands.

This powerful and innovative integration has a clear purpose: to optimize credit and investment decisions, especially in the agribusiness sector.

By minimizing risks and promoting more responsible and sustainable financial practices, ESGreen Insights goes far beyond traditional analyses.

It eliminates the fragmentation and inconsistency of data that significantly hinder the market, providing an essential tool to modernize and make socio-environmental risk management and ESG compliance more efficient—a growing challenge for companies, particularly for the financial sector and agribusiness.



## 2 TECHNICAL APPROACH

The ESGreen project employs a multifaceted and innovative technical approach to provide robust and reliable ESG analysis. At its core, it uses an automatic integration of multiple data sources, including APIs from institutional databases (such as Ibama, Receita Federal, Dívida Ativa, TJDF), proprietary sources, and corporate reports. We are now expanding to include georeferenced data on deforestation (National Institute for Space Research - INPE), environmental infractions due to deforestation and others (IBAMA/ICMBIO), authorization for vegetation suppression (IBAMA), information on embargoed areas (IBAMA/ICMBIO), data on the status of the Rural Environmental Registry (Sistema Nacional de Cadastro Ambiental Rural - SICAR), and overlaps with Permanent Preservation Areas (APP) (Ministry of Environment - MMA), indigenous lands (National Foundation of Indigenous Peoples - FUNAI), and quilombola territories (National Institute of Colonization and Agrarian Reform - INCRA). This vast database feeds a sophisticated analysis model that generates a dynamic ESG Risk Score and a Compliance Checklist aligned with regulations such as SARB 026 and EUDR, assessing everything from cadastral and legal data to complex environmental and social risks.

Geotechnologies enable real-time geospatial monitoring, focusing on deforestation and territorial overlaps, providing crucial data for field

validation. Artificial Intelligence (AI), developed in partnership with NVIDIA, is applied to automate the evaluation of the Compliance Checklist and optimize the generation of due diligence reports, streamlining processes that would otherwise be manual and time-consuming. Complementarily, blockchain technology, already implemented by Lacchain, ensures the traceability and immutability of compliance and geospatial data, providing an unprecedented level of trust and auditability to the information. The entire system is built on a modular and scalable architecture, allowing for the easy addition of new analysis sectors or adaptation to new regulatory requirements with minimal adjustments.

ESGreen's business model is based on offering a B2B (Business-to-Business) solution for banks, financial institutions, and large corporations. The platform is provided via APIs (Application Programming Interfaces), enabling seamless and large-scale integration with client systems. This approach not only optimizes the time and resources dedicated to risk analysis and compliance but also empowers users to make more assertive credit and investment decisions aligned with the growing sustainability demands of the global market, transforming socio-environmental risk management into a competitive advantage.

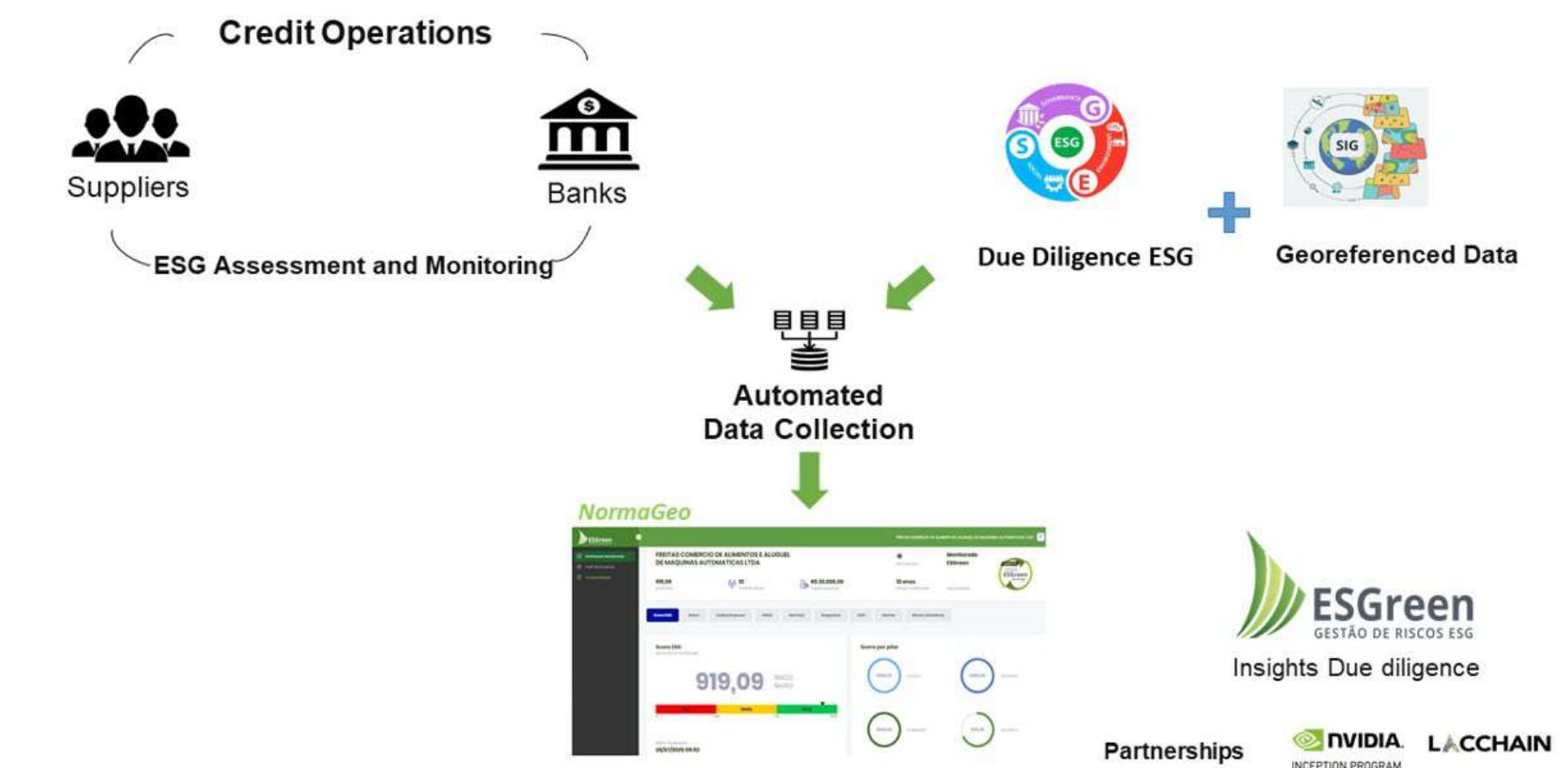
### 3 MAIN ARCHITECTURAL ASPECTS

Currently, ESGreen operates as a robust data intelligence system, combining automated data collection with information provided by companies themselves.

To further enhance this process, the platform aims to integrate georeferenced data. From this vast database, ESGreen will generate a dynamic ESG Risk Score and a comprehensive report with a Compliance Checklist, issuing alerts for environmental, legal, and deforestation irregularities.

In partnership with NVIDIA, we will utilize Artificial Intelligence (AI) to automate the evaluation of the Compliance Checklist and optimize due diligence reports.

Blockchain technology, in collaboration with Lacchain, will ensure data traceability and immutability. The architecture is modular and scalable, facilitating future expansions. Our B2B business model offers the platform via APIs for seamless integration with client systems.



**Figura 1** | Integrated ESG System Scheme. Source: Image generated with the use of artificial intelligence-Gemini Advanced (2025). CASA E MERCADO (2025). BRASIL ESCOLA (2025).



## 4 SUMMARY OF RESULTS

### Result 1

**Creation of a Comprehensive ESG Risk Score:** The platform combines cadastral and legal data with continuous geospatial information from the NormaGeo module, enabling the creation of a dynamic ESG score and an unprecedented 360° view of any entity's risk and sustainability profile.

### Result 2

**Data That Meets Regulatory Requirements and Ensures Reliability:** Integrating multiple data sources, enhanced by Artificial Intelligence to automate compliance checklist evaluation and optimize reports, and validated by blockchain technology to ensure data immutability and auditability, guarantees that information meets rigorous regulatory and market demands.

### Result 3

**Environmental and Geospatial Irregularity Alerts:** The NormaGeo module monitors deforestation and land compliance in real time, generating clear alerts about deforestation activities and overlaps with sensitive areas such as Permanent Preservation Areas (APPs), indigenous lands, and quilombola territories.

### Result 4

**Interactive Map for Risk Visualization:** The platform offers an interactive map that visually alerts users to territorial overlaps and deforestation, enabling immediate and in-depth spatial understanding of environmental and social risks.

### Result 5

**Legal and Cadastral Compliance Alerts:** ESGreen automates the identification of cadastral and legal non-compliances, such as outstanding certificates, ongoing lawsuits, involvement with Politically Exposed Persons (PEPs), or indications of forced labor, triggering rapid alerts.

### Result 6

**Optimized Time and Company Resources:** By centralizing and processing a vast range of information automatically and reliably, ESGreen streamlines the identification of high-risk suppliers and optimizes the time of compliance teams, empowering banks and large companies to make more assertive and efficient investment and credit decisions.



## 5

## MAIN INNOVATIONS

The business model allows for either on-demand usage billing – per minute of use – or a recurring charge, such as a tiered monthly fee based on expected usage.

By combining NormaGeo's geospatial and land compliance information with cadastral and corporate data, corporate structure details, certifications and compliance, legal proceedings, and detailed ESG scores (global, by pillar, and by sub-theme), ESGreen offers an unprecedented 360° view of any entity's risk and sustainability profile. This is possible thanks to the automatic integration of multiple data sources, including geotechnology APIs, institutional databases, proprietary sources, and corporate reports.

The platform will not only indicate a company's ESG performance but also where that performance manifests geographically, validating compliance in the field.

This geospatial layer, which enables real-time analysis of ESG risks such as deforestation, vegetation suppression, and forced labor, validates self-declared information. While processing georeferenced data in isolation

might be common, ESGreen's innovation lies in merging this data with a vast array of ESG information to develop a comprehensive and dynamic risk score.

Furthermore, ESGreen stands out for its ability to evaluate a large number of suppliers, performing a "fine sieve" that precisely identifies which entities need closer analysis. This significantly optimizes companies' time and resources in identifying risky suppliers. The implementation of Artificial Intelligence and blockchain throughout the entire process, from data collection to API delivery, adds a crucial level of security and traceability for sustainable finance, ensuring immutability and auditability.

The platform's modular and scalable architecture, developed in compliance with regulations (e.g., SARB 026/EUDR), allows for the addition of new sectors with minimal adjustments. This strengthens users' ability to make more assertive decisions aligned with the growing demands of a global market focused on sustainability and socio-environmental responsibility.



## 6

## CONTRIBUTION TO THE NATIONAL FINANCIAL SYSTEM AND SUSTAINABLE FINANCE

The ESGreen platform serves as a fundamental pillar for the advancement of sustainable finance in Brazil, offering a multifaceted contribution to the National Financial System (SFN).

First, it strengthens credit and risk analysis, empowering banks and financial institutions to effectively incorporate ESG factors into their assessments, going beyond traditional metrics.

This leads to more informed credit and investment decisions, reducing exposure to socio-environmental and reputational risks.

Second, the platform promotes regulatory compliance. By automating data collection and analysis, it simplifies adherence to national regulations, such as those from Febraban, and prepares the SFN for international requirements like the EUDR. This prevents penalties, strengthens institutional reputations, and ensures competitiveness in the global landscape.

Additionally, it boosts green investments, directing capital towards genuinely sustainable activities and projects in agribusiness and other

sectors. By providing verifiable data, the platform facilitates access to green credit lines and investments, which are essential for the transition to a low-carbon economy.

ESGreen also elevates the standards of supply chain traceability and verifiability, utilizing blockchain and geospatial data. This leads to increased market transparency and accountability, fostering greater corporate responsibility and enabling all stakeholders to make more conscious decisions.

Finally, by integrating sustainability into the core of financial operations, it contributes to the creation of a more resilient financial ecosystem in Brazil, preparing the SFN to face the challenges posed by climate change and social issues.

The platform accelerates the transition to a greener, more inclusive, and resilient Brazilian economy in the long term.

ESGreen is not just an analytical tool; it's a catalyst that enables the National Financial System to be a leading agent in building a more sustainable future for Brazil.