The future lies in data integration

Fragmented compliance is a thing of the past

Satelligence

What we mean when we talk about Scope 3

Scope 3 describes the indirect emissions that occur across a company's value chain, and make up the majority of climate impact for most companies. What falls into Scope 3 varies depending on where a company sits in the supply chain: for growers it may include upstream inputs like fertiliser, for processors and traders it covers the raw materials they source, and for brands and retailers it includes the embedded impacts of commodities such as palm, soy, or cocoa. For clarity, in this paper we will refer to these collectively as supply chain emissions.

Amongst these emissions factors, land use change (LUC) is both one of the largest and most under-reported sources. Historically, inconsistent definitions, limited access to high-quality data, and reliance on voluntary reporting have led to LUC emissions being hard to understand and difficult to act upon.

Compliance-led change

But the situation is changing. With frameworks such as the GHG protocol, SBTi FLAG, AFI, CSRD, CDP, and the EU Deforestation Regulation (EUDR) setting stricter requirements, companies in land-intensive sectors are now expected to measure, verify, and disclose land-related emissions with even higher accuracy. For companies that have committed to SBTi, setting a FLAG target is now mandatory for companies with significant agricultural and forestry supply chains.

One major challenge is that many organisations manage these obligations and targets in isolation: for example, emissions reporting may be handled by one department, and EUDR due diligence by another, each drawing from separate LUC data sources, methods, and suppliers. This fragmented approach increases costs, creates inconsistencies, and leaves organisations open to compliance and reputational risk.

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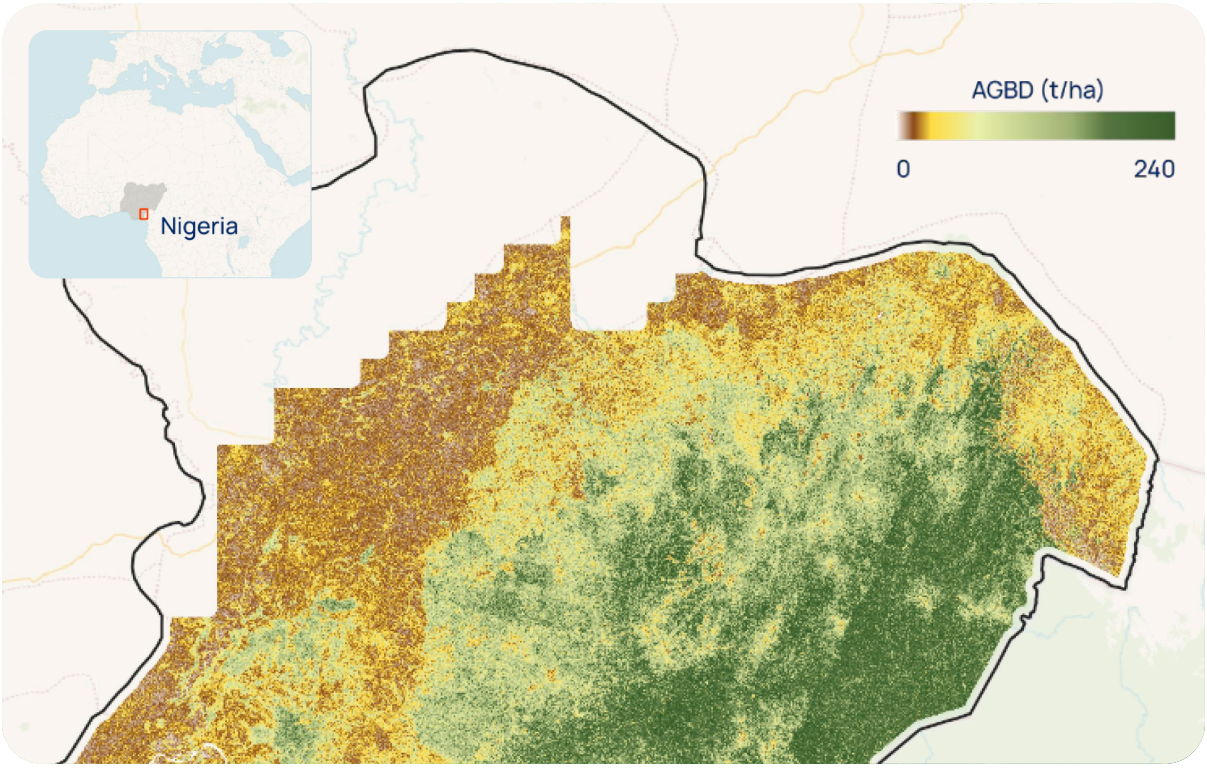
How to keep up

The solution is the alignment of data processes throughout a company. By using a single, independently validated source of LUC data across supply chain emissions, EUDR, and other climate and nature frameworks, companies can build one common source of truth that supports accurate decision-making, simplifies reporting, and maximises the impact of their actions.

In this whitepaper, we will explore how a unified approach to data can help organisations stay ahead of regulatory change whilst improving environmental action.



Aboveground biomass density (AGBD) data, in tons per ha (colourbar range: 0 - 200) over the Cross River National Park in Nigeria, at the border with Cameroon. Source: Satelligence platform.

Why monitoring LUC emissions is now a business imperative

LUC emissions arise when forests, peatlands, and other landscapes sequestering carbon dioxide are cleared to make way for agricultural production, causing the large and immediate release of carbon dioxide into the atmosphere. As the impacts of this release are embedded at the raw material stage, they in fact trickle down throughout the entire value chain (for example, from farm to manufacturer to retailer). Accurate LUC data is therefore critical not only for a company's deforestation-free commitments and regulatory compliance, but it also ensures that corporate action delivers genuine climate and biodiversity benefits.

Across sectors, Scope 3 commonly represents between 80–95% of a company's total footprint. Within this, LUC often contributes as much as ~60–70% in cocoa production, ~40–80% in palm oil, and ~50–65% in risk regions for soy production. As LUC is the dominant lever across these supply chains, consistent, auditable LUC data directly targets the biggest driver and has the potential to significantly reduce compliance risk.

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In recent years, land-sector emissions reporting has shifted from a largely voluntary exercise to an industry expectation:

- GHG protocol provides the foundational emissions accounting framework and is currently being updated with more prescriptive guidance on land use change - this is likely to be published by the end of 2025.

- SBTi requires companies with significant land footprints to set land sector (FLAG) targets, covering both emissions reductions and removals. It is important to note that these targets must also include deforestation-free commitments, with the latest deadline 31st December 2025 for companies to be fully deforestation-free, based on a cut-off date 31st December 2020 or earlier.

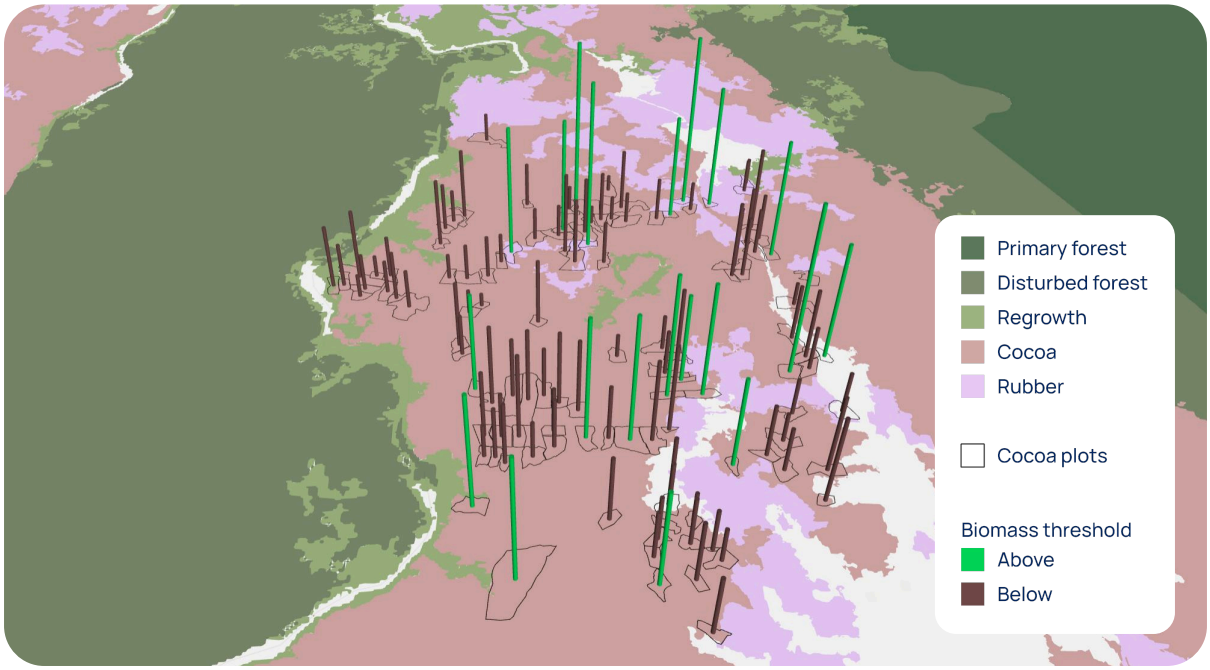
- AFI, CSRD, and CDP are demanding greater granularity in public disclosures, with CSRD in particular making emissions reporting mandatory for a large number of companies operating in the EU market.

- EUDR enforces deforestation-free sourcing, creating overlap with the LUC data required for climate reporting.

FLAG targets in particular are no longer optional for companies with SBTi commitments sourcing from agriculture, forestry, and other land-intensive sectors. As of January 2024, SBTi has required that land sector emissions and removals be addressed through specific FLAG targets (separate to other science-based targets). Missing these targets not only undermines climate credibility, but can also restrict access to markets.

In fact, regulators and voluntary frameworks increasingly expect companies to account not only for the LUC emissions, but also for the carbon removed through reforestation, restoration, and regenerative agriculture. And because deforestation-free commitments are now integrated into SBTi FLAG alongside emission reductions, it is clear that they cannot be treated in isolation. This makes unified LUC data handling essential;

they enable consistent tracking of both emissions and removals, whilst also supporting deforestation-free compliance and target setting under the leading frameworks.



Example of a carbon removals opportunity assessment across cocoa plots in Cote d'Ivoire. Source: Satelligence platform.

What is quality LUC data, and why is it so difficult to find?

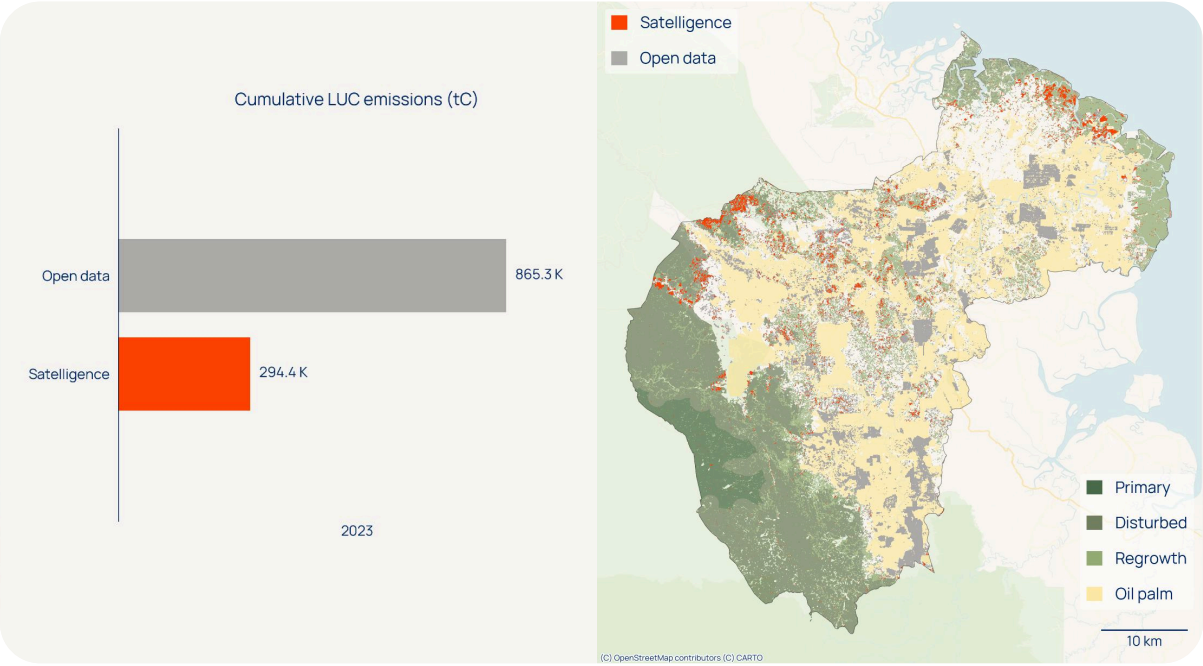
Robust land emissions reporting relies on one essential factor: a high-quality forest and land-cover baseline. The accuracy of LUC detection, the reliability of carbon assessments, and the credibility of emissions and removals reporting all depend on this baseline. If a baseline is not fully reliable, every downstream dataset becomes inconsistent and fragmented. Satelligence addresses this by creating its own independently validated baseline and applying it consistently across its LUC solutions,

from deforestation monitoring to carbon emissions and removals. This ensures data that is both higher quality and more coherent, giving companies a single source of truth for multiple reporting requirements.

Building on this baseline, robust land emissions reporting incorporates four key elements:

- High-resolution, validated LUC detection that can measure change even at smallholder level
- Forest class differentiation to apply the right carbon factors and avoid over- and underestimation errors
- Continuous tracking of both removals and potential reversals to meet emerging standards
- Precise geolocation that links change events to their source plot for audit and regulatory purposes

For downstream companies, the challenge can be even greater. Buying through traders and processors often leaves them without farm-level geolocation, forcing them to rely on supplier estimates and leaving major gaps. At the same time, regulations such as the EUDR now require precise geolocation of sourcing



Deforestation (2015–2023) and associated LUC emissions in Aceh Tamiang, Indonesia — integrated monitoring. Source: Satelligence platform.

areas with plots - this is a move beyond certification schemes, which relied on general assurances rather than farm-level evidence. Meeting this bar demands integrated systems that connect accurate LUC monitoring with traceable supplier data, without which companies risk misreporting emissions, over- or underestimating deforestation, and falling short of compliance.

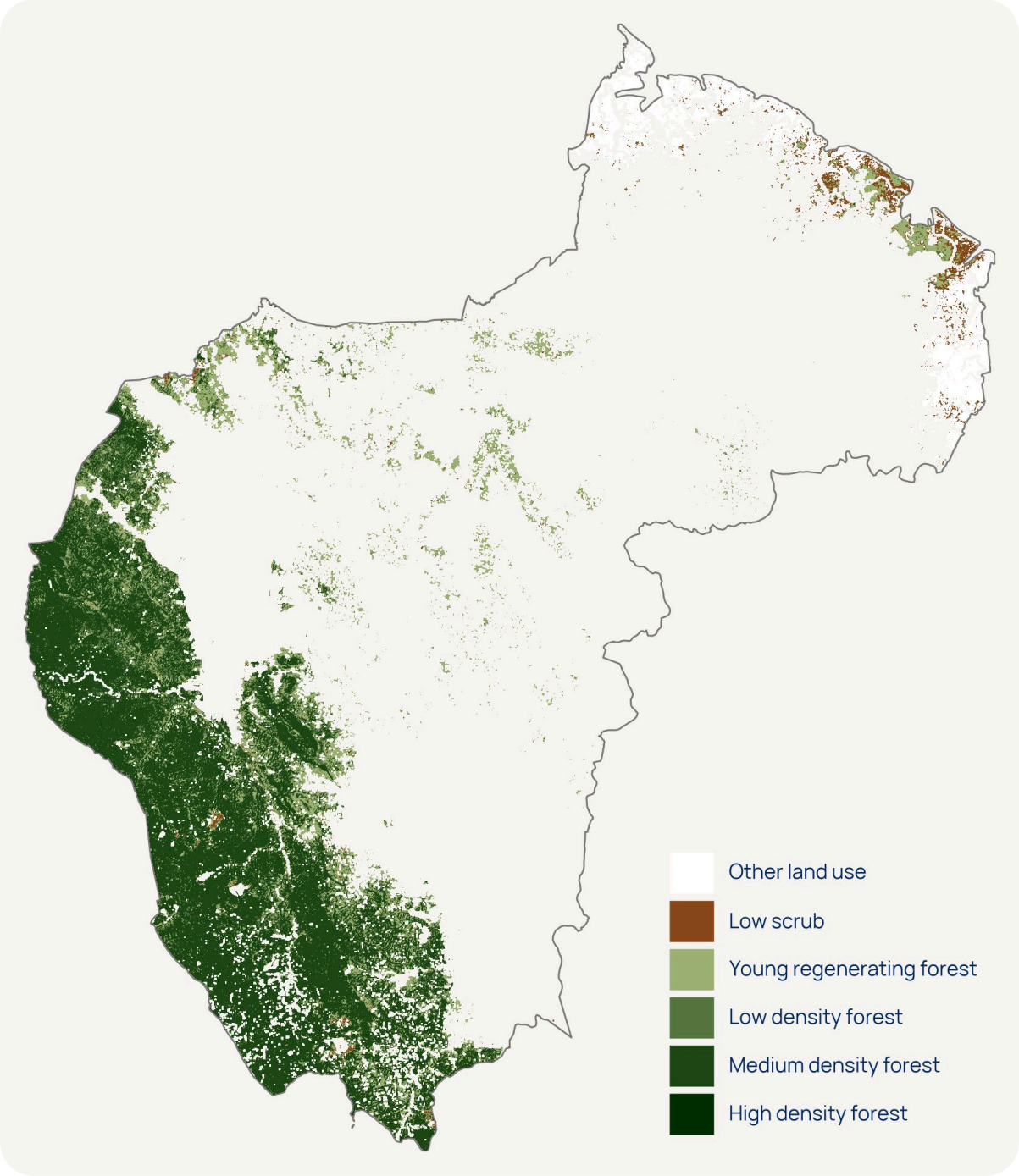
How to support both EUDR and emissions reporting

Aligning EUDR and emissions reporting allows companies to create a single, auditable foundation that supports multiple objectives simultaneously. It removes inconsistencies between internal and public disclosures, reduces duplication and silos across procurement, sustainability, and reporting teams, as well as reducing costs of managing multiple data providers. Beyond this, it ensures that companies can meet regulatory requirements for deforestation-free due diligence under the EUDR, accurately quantify LUC emissions and removals for Scope 3, and integrate this data into broader target-setting and carbon accounting frameworks such as SBTi FLAG and GHG protocol, respectively.

By unifying these processes, companies not only improve the reliability and credibility of their reporting for the current regulatory landscape, but also position themselves for the potential convergence of climate and deforestation reporting standards and regulations in the future.

For companies sourcing from land-intensive supply chains, transparent monitoring is critical. Satelligence provides a single, integrated solution that addresses both EUDR due diligence and carbon and LUC emissions monitoring. By leveraging an independently validated forest baseline and precise forest class differentiation, Satelligence delivers superior accuracy in

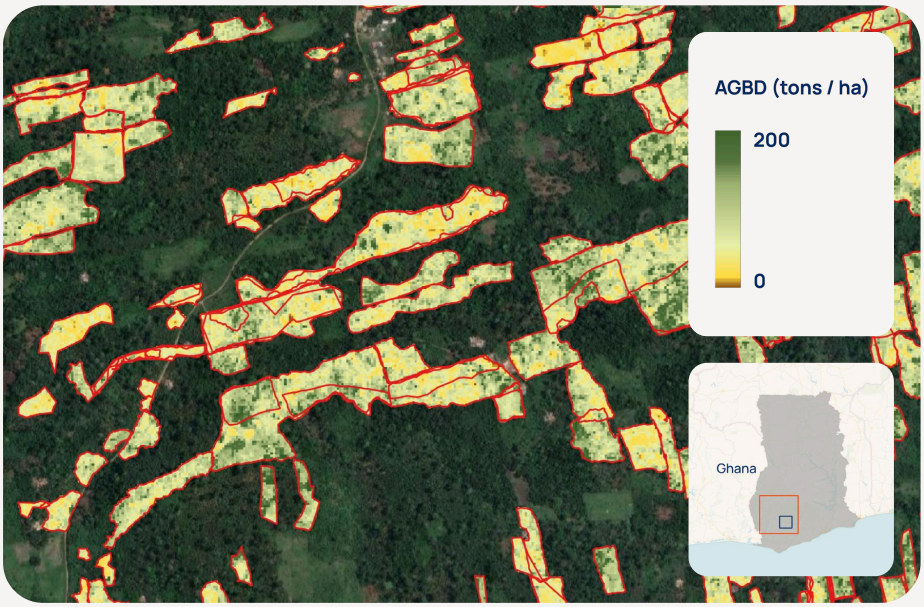
calculating both emissions and removals. These datasets are fully aligned with key frameworks, including the abovementioned GHG protocol, SBTi FLAG, and AFI, meaning that companies can meet regulatory and voluntary reporting requirements with confidence.



Aceh Tamiang, Indonesia high carbon stock forests map. Source: Satelligence platform.

CASE STUDY

As mentioned in its 2024 Sustainability Report, Swiss premium chocolate company Lindt has used Satelligence's high-resolution satellite monitoring to track deforestation and assess carbon emissions from land-use change within their mapped Farming Program. By combining plot-level geolocation with robust deforestation detection, Lindt has aligned its Scope 3 emissions monitoring with emerging EUDR requirements, whilst also participating in industry alignment on farm-level risk assessment methods. This demonstrates how unified data can support operational efficiency, regulatory compliance, and credible sustainability reporting.



Carbon stocks for cocoa plots in Ghana. Source: Satelligence platform.

CONCLUSION

The way forward

The pressure on companies to demonstrate deforestation-free sourcing and credible emissions reporting will only increase. Those who continue to manage these obligations separately risk higher costs, inconsistent disclosures, and in the worst case, potential exclusion from critical markets. By contrast, companies that integrate now are not only safeguarding their compliance procedures, but also enabling greater efficiency, transparency, and resilience across their supply chains.

Satelligence is ready to help. With independently validated data, precise geolocation, and full alignment with global frameworks, we provide the solid foundation that companies need to unify EUDR compliance and LUC emissions monitoring.

Contact our team to learn how Satelligence can support your organisation in building a trusted, integrated system for current and future compliance.

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About Satelligence

Satelligence is the global leader in satellite-powered sustainability intelligence, helping companies monitor and manage environmental risks across their commodity supply chains. Trusted by over 70% of global palm oil and cocoa companies, as well as the largest coffee and soy traders and the top five global food corporations, Satelligence provides real-time, third-party verified geospatial insights that drive performance, mitigate risk, and ensure compliance with evolving regulations such as the EU Deforestation Regulation (EUDR) and Scope 3 emissions reporting.

By combining high-resolution satellite data, ground-truthing, and advanced analytics, Satelligence enables organisations like Mondelez, Unilever, Bunge, Cargill, and Rabobank to move beyond monitoring—toward actionable sustainability, supplier accountability, and measurable impact. With Satelligence, industry leaders gain the visibility and strategic foresight needed to future-proof operations in an era of climate accountability.

With offices in Utrecht, Jakarta, Abidjan, and São Paulo, we're committed to protecting businesses, people, and the planet.