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WHITEPAPER

Preserving biodiversity –

the next big challenge
after climate change



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Biodiversity is the foundation of life on Earth. It supports human wellbeing through the provision of pure air and water, food, medicines and raw materials, and is crucial for the function of ecosystems.

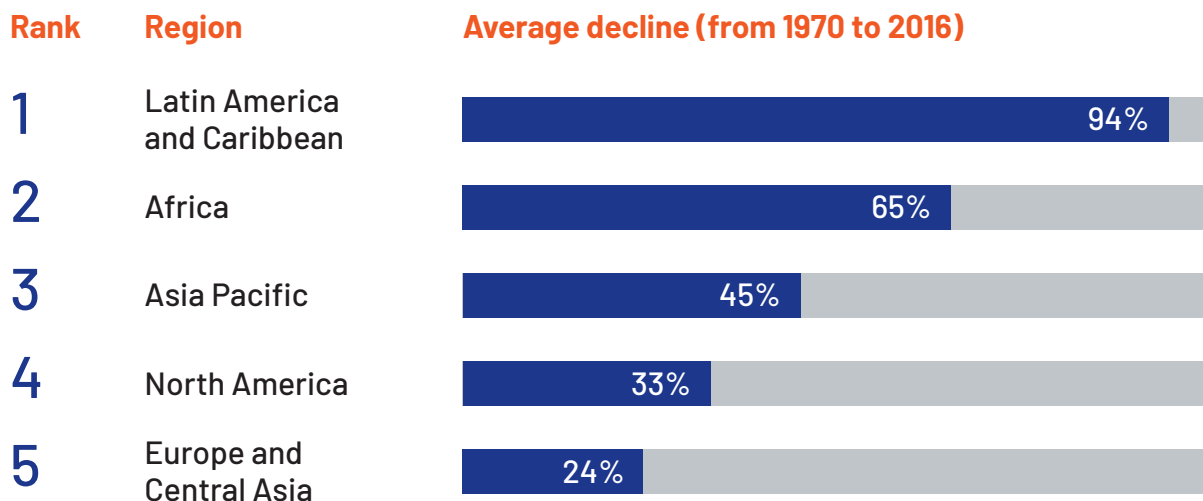
Human activities such as deforestation, habitat destruction, climate change and pollution have resulted in a significant decline in global biodiversity. This has had ecological and social consequences, including the extinction of species, disruption of ecosystems and loss of livelihoods for communities dependent on natural resources.

About a million species are threatened with extinction, and the rate of species loss is rising, according to the Global Assessment Report on Biodiversity and Ecosystem Services by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). In terms of risk severity, the World Economic Forum (WEF) places biodiversity loss only second to climate change and extreme weather.

1. https://www.ipbes.net/sites/default/files/inline/files/ipbes_global_assessment_report_summary_for_policymakers.pdf

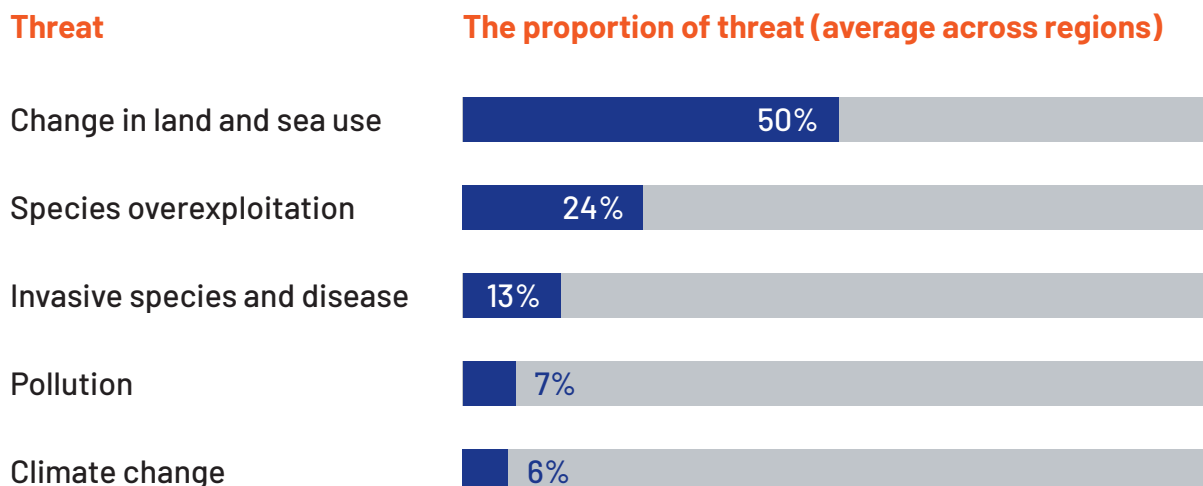
How has biodiversity changed over the years?

The World Wide Fund for Nature (WWF) uses the Living Planet Index (PLI) to measure biodiversity. It captures over 4,000 species including mammals, birds, fish, reptiles and amphibians.



Latin America and the Caribbean have seen the biggest drop (94%) in biodiversity, due to the sharp decline in reptile and fish populations.²

The WWF has identified five major threats to biodiversity. The biggest threat is the change in land and sea use. On average, the world loses approximately one acre of rainforest every **two seconds**.³ The five major threats are listed below.



Biodiversity is decreasing globally, threatening human health, food security and economic stability, and is expected to worsen if urgent and targeted action is not taken.

2. Visualizing the Biggest Threats to Earth's Biodiversity | SRI LANKA (wordpress.com)

3. Visualizing the Biggest Threats to Earth's Biodiversity | SRI LANKA (wordpress.com)

In an effort to protect biodiversity, a number of government representatives from all over the world gathered at the 15th Conference of the Parties (COP15) to the United Nations Convention on Biological Diversity (CBD) to reach agreement on international actions and initiatives to preserve and rehabilitate nature.

The conference was chaired by China and hosted by Canada in Montreal from 7 to 19 December 2022. It aimed to set a clear path to halting biodiversity loss and ensuring sustainability.

The conference addressed several topics, including the relationship between biodiversity, climate change, sustainable development, the role of indigenous peoples and local communities in biodiversity conservation, and the need for increased funding and resources to support conservation efforts.

The CBD's 196 parties adopted the **Kunming-Montreal Global Biodiversity Framework**, a landmark global commitment to halt and reverse biodiversity loss by 2030 while protecting nature and respecting the rights of indigenous and local communities.

By adopting this framework, the participants provided a roadmap to achieve the three main objectives of the CBD:

- » Conservation of biological diversity
- » Examining the sustainable consumption of biological diversity components
- » Facilitating a fair and equitable distribution of the benefits arising from genetic resources

The Global Biodiversity Framework (GBF) has four broad goals for reducing threats to biodiversity and restoring natural ecosystems. **These goals establish a vision for biodiversity by 2050:**

Goal A: Increase the area of natural ecosystems significantly, prevent human-caused extinction of threatened species and reduce tenfold the extinction rate of all species.

Goal B: Ensure that nature's contribution to humans is valued, maintained and enhanced through sustainable use and management of biodiversity.

Goal C: Share the benefits of genetic resource use, digital sequence information on genetic resources and traditional knowledge associated with genetic resources with indigenous peoples and local communities.

Goal D: Ensure that all parties, particularly the least developed countries and small island developing states, have adequate resources to implement the GBF. These include financial resources, capacity building, technical and scientific cooperation, and access to technology.

The GBF also includes 23 targets to be achieved by 2030, such as the following:

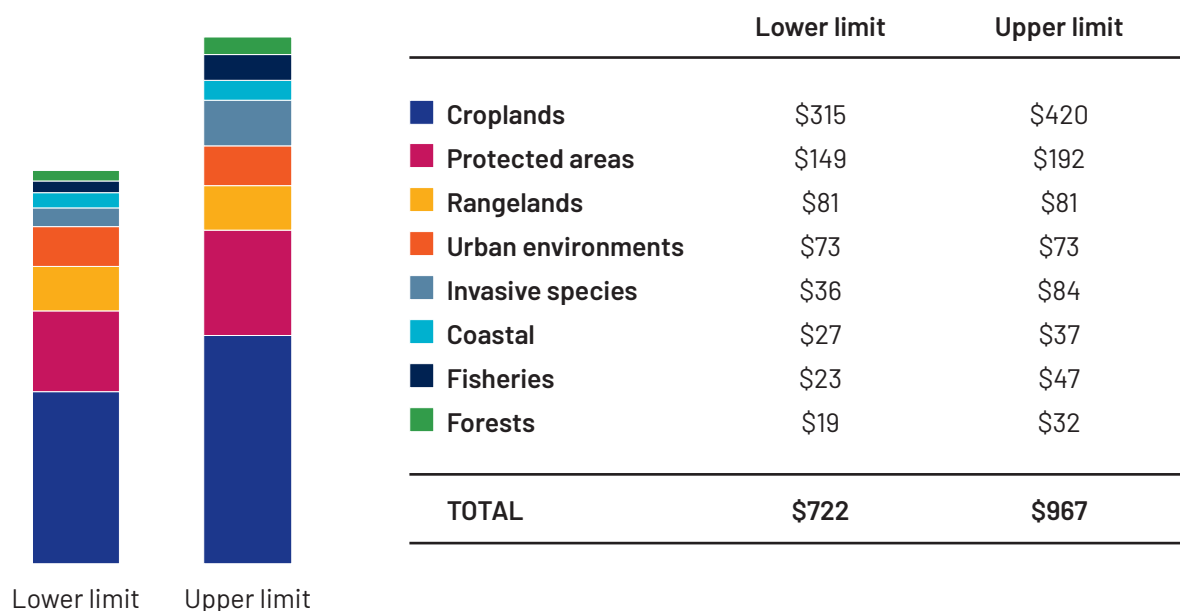
- » Effective conservation and management of *at least 30%* of the world's land, coastal areas and oceans
- » Reduce the rate of introduction and establishment of invasive alien species by *at least 50%*
- » Halve the overall risk from added nutrients, pesticides and highly hazardous chemicals

- » Require international corporations and financial institutions to monitor, assess and disclose the impact of their operations, supply chains and portfolios on biodiversity
- » Reduce the global consumption footprint and *halve global food waste*
- » Reduce or eliminate harmful subsidies to biodiversity by *at least USD500bn per year* while increasing positive incentives for biodiversity conservation and sustainable use
- » Mobilise *at least USD200bn* annually from public and private sources for biodiversity-related funding
- » Increase international financial flows from developed countries to developing countries by at least USD20bn annually by 2025 and by at least USD30bn annually by 2030

The Global Environment Facility was requested to set up a special trust fund – **the GBF Fund** – to assist with the execution of the GBF. With adequate, predictable and timely funding flows, the Fund will complement existing support and enhance financing to ensure the timely execution of the GBF.

COP15 emphasised the importance of addressing the causes of biodiversity loss, such as habitat destruction, overexploitation of natural resources, climate change, pollution and introduction of invasive alien species. The conference recognised that these drivers are interconnected and that addressing them requires a comprehensive and integrated approach that considers the needs of both humans and the planet. Estimated funding required to halt biodiversity loss ranges between USD722bn (lower limit) and USD967bn (upper limit) per year, according to a report published by **Paulson Institute, The Nature Conservancy and Cornell Atkinson Centre for Sustainability**⁴ in 2019. Croplands require the most funding, followed by protected areas and others, as shown in the diagram below.

Global biodiversity conservation funding needs (USDbn)⁵



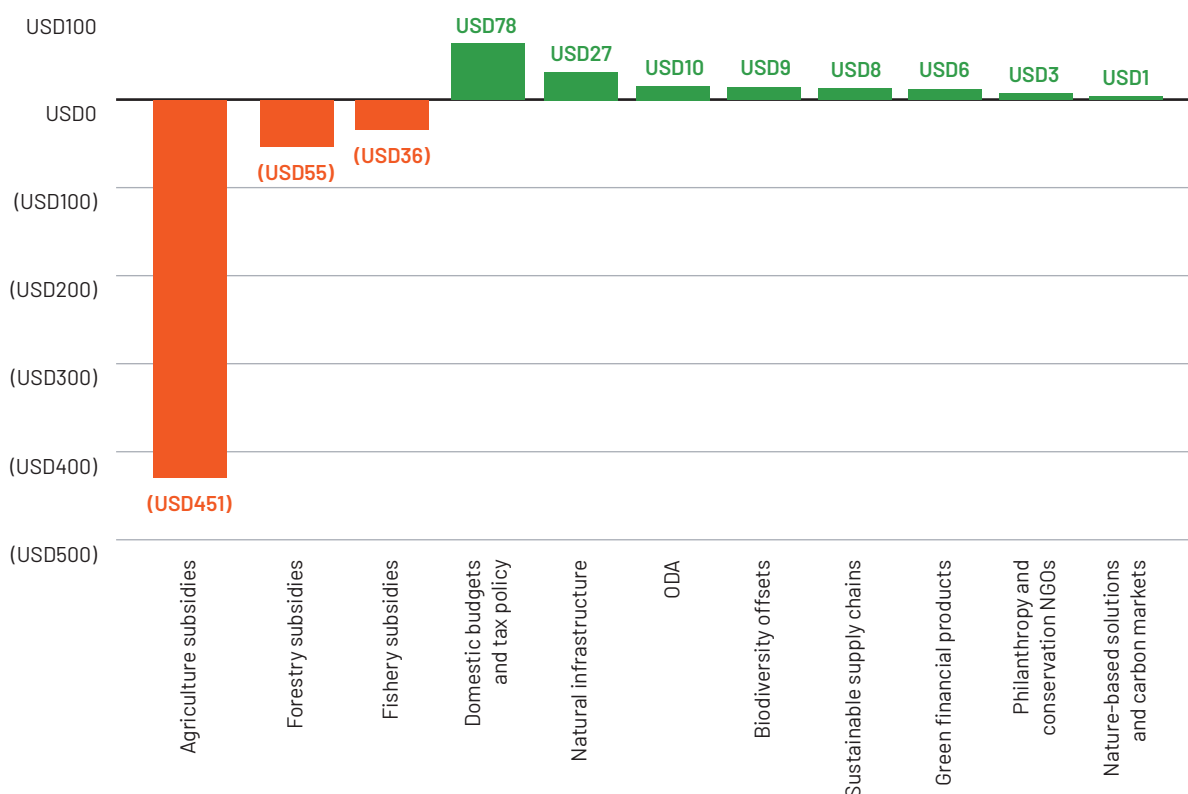
Source: FINANCING-NATURE_Full-Report_Final-with-endorsements_101420.pdf (paulsoninstitute.org)

4. Financing Nature: Closing the Global Biodiversity Financing Gap – Paulson Institute

5. Financing Nature: Closing the Global Biodiversity Financing Gap – Paulson Institute

Agricultural, fisheries and forestry subsidies of nearly USD542bn are incurred globally each year; these harm biodiversity. Redirecting those funds, particularly those thought to be the most detrimental to biodiversity, and encouraging more environmentally friendly behaviour would help the environment, mitigating the risk of climate change and enhancing food security.

Harmful subsidies and global financial flows towards biodiversity conservation (upper estimates in 2019 (USDbn) ⁶



Source: Financing Nature: Closing the Global Biodiversity Financing Gap – Paulson Institute

According to the latest estimates, 87% of current financing for the conservation of biodiversity comes from domestic and international public finance.⁷ Innovative public-private funding mechanisms and the private sector will play an important role in meeting the requirements of biodiversity financing. Economic activity worth more than 50% of global GDP, i.e. over USD40tn, is at risk due to dependence on nature. Sectors such as agriculture, fishing, mining and tourism are highly dependent on nature and generate 15% of global GDP (USD13tn), while moderately dependent sectors generate 37% of global GDP (USD31tn).⁸

6. Financing Nature: Closing the Global Biodiversity Financing Gap – Paulson Institute

7. https://globalcanopy.org/wp-content/uploads/2021/07/LBIN_2020_RGB_ENG.pdf

8. <https://sciencebasedtargetsnetwork.org/wp-content/uploads/2020/11/Science-Based-Targets-for-Nature-Initial-Guidance-for-Business.pdf>

Biodiversity financing: the need of the hour

The targets under the GBF reflect the critical need to conserve biodiversity and restore ecosystems.

Target 19 aims to develop accessible revenue streams and substantial financing from both public and private resources to implement biodiversity action plans. The target also mentions the role of innovative financing schemes such as green bond payments, benefit-sharing mechanisms, biodiversity credits and offsets to meet the rising costs of preventing biodiversity loss.

Biodiversity credits have been gaining traction as an economic instrument to finance biodiversity-related conservation and restoration activities. Biodiversity credit is a quantifiable unit to measure positive outcomes of biodiversity such as impacts on species, ecosystems and natural habitats.

Biodiversity has a localised context – no two areas can have the same ecosystem, making it technically difficult to ensure an equivalent amount of biodiversity loss with compensatory gain. Some countries have compliance requirements, with governments or financial institutions requiring project developers to “offset” the negative impacts on biodiversity. For example, a mining company causing biodiversity loss through its operations could deliver biodiversity benefits through the purchase of biodiversity offsets in a project undertaking reforestation at another location. Biodiversity offsets are aimed at setting a price for nature through “equivalence,” i.e. the principle of compensating for nature damage inflicted elsewhere.

Biodiversity credits, on the other hand, are active investments from individuals, companies and countries to meet nature-positive aspirations. Biodiversity credits put a price on human labour and technology costs to achieve biodiversity conservation and/or enhancement.

Box 1: Example of biodiversity credits

- » Recognised by the *World Economic Forum*
- » Main product: It includes a “voluntary biodiversity credit” product launched in Colombia in May 2022. Each voluntary biodiversity credit sold by the initiative cost USD30 and was equivalent to 30 years of preservation and/or restoration of 10 square metres of the Bosque de Niebla Forest.
- » Key parties: The product was developed by *Terrasos*, a Latin American biodiversity protection and habitat banking company, and *ClimateTrade*, a blockchain-based climate marketplace.
- » Details of the project:
 - One of the first projects to issue these “voluntary biodiversity credits” was the Bosque de Niebla-El Globo Habitat Bank, also known as the Spectacled Bear Habitat Bank
 - The project is committed to conserving native species such as the spectacled bear, the yellow-eared parrot and the black-and-chestnut eagle in the High Andes

The voluntary carbon market is more mature, with multiple organisations providing standardised carbon credits. One such organisation is Verra, *a registered not-for-profit managing the world's largest voluntary carbon markets programme, the Verified Carbon Standard (VCS) Program*. The programme certifies that the activities undertaken under carbon credit projects achieve measurable high-integrity outcomes.

Verra is also developing a biodiversity crediting framework and methodology under its Sustainable Development Verified Impact Standard (SD VISta) Program, which will enable the sale of certified and standardised nature credits for standalone projects through a voluntary biodiversity market.

COP15 emphasised *the importance of indigenous peoples and local communities* in biodiversity conservation and management. The CBD seeks to achieve its goals through the participation of indigenous peoples and local communities and their historical contribution to nature conservation. The success of the biodiversity credit market relies mostly on the integration and inclusion of the Global South, the steward of the major biodiversity hubs. A key tenet of biodiversity credits is the *facilitation of wealth transfer from urban areas to rural areas, indigenous peoples and local communities*.

The success of COP15 and the biodiversity credit markets will *depend on the participation and inclusion of all parties, including governments, civil society organisations, indigenous peoples and the private sector*. Indigenous peoples and local communities are the most important participants in biodiversity projects, as they gain real benefits from these projects. The private sector plays the role of financier by purchasing these credits and demonstrating its commitment to mitigating nature-related risks. Governments and regulators have a shared responsibility towards policy making and promoting voluntary biodiversity credit markets. Civil society will play the role of appraiser in upholding the commitments of these projects.

Strong leadership and collaboration would also be required to address the underlying causes of biodiversity loss and to promote sustainable development that balances economic growth and environmental protection.

In conclusion, COP15 was an essential step forward in the global effort to reverse biodiversity loss and promote sustainable development. There is a need for systemic change, where finances are transferred from activities that damage the environment and are accelerated towards nature conservation and restoration. A transparent biodiversity credit market combined with an accelerated inflow of funding from the private sector could provide growth opportunities to protect natural resources, mitigate risk and adapt to the impacts of climate change.

How Acuity Knowledge Partners can help

Our wide range of customised analysis and support covers the entire spectrum of financing products along the sustainable finance investment lifecycle and enables investment banks and advisory firms to establish and grow their sustainable finance practices:

Coverage and solutions	
ESG advisory	Green/social bonds, nature-based solutions research
Sustainable bonds	Blended finance, ESG/sustainable transaction detailing
Green loans	Impact finance, ESG institutional/framework analysis
ESG strategy	ESG reports, decarbonisation assessment

Our focused support	
Identifying sector-wise ESG taxonomy	Climate change framework analysis
Mapping climate targets	Analysis of sustainable initiatives
Climate bonds – opportunity analysis	Climate bonds – market updates
Benchmarking ESG standards and regulations	ESG newsletters
ESG scoring	Climate revenue share
SDG trackers	Building/analysing – portfolios or index
ESG thematic study	ESG indicators and controversies
SDG impact analysis	ESG rating

We have ESG domain expertise and help banks ramp up their onshore verticals, focusing on incorporating ESG in client analysis, saving a significant amount of senior bankers’ time. We standardise templates and provide coverage across APAC, EMEA, the US and Sub-Saharan Africa.

Sources:

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- » [Science-Based-Targets-for-Nature-Initial-Guidance-for-Business.pdf \(sciencebasedtargetsnetwork.org\)](#)
- » [COP15 agreement in the spotlight – a ‘New Deal for Nature’ – Pollination | Climate Change Investment & Advisory Firm \(pollinationgroup.com\)](#)
- » [Biodiversity credits: An opportunity to create a new crediting framework \(commentary\)\(mongabay.com\)](#)
- » [How biodiversity credits can deliver benefits for nature | World Economic Forum \(weforum.org\)](#)
- » [Biodiversity credits: risks and opportunities – The Biodiversity Consultancy](#)
- » [WEF_Biodiversity_Credit_Market_2022.pdf \(weforum.org\)](#)

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Ananta Kukreja has 6 years of experience in ESG, Sustainability and Policy Research supporting clients and projects across sectors. She has experience of working in tandem with multiple teams by providing support on ESG reporting, research and development, project management engagements. Her sectoral experience revolves across Oil and Gas, Mining, FMCG, Transportation, Power and Energy and Biodiversity.



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Puja has 6 years of extensive experience in ESG, Climate Change & Sustainability and she is supervising the ESG team at Acuity. She also has diverse experience in conducting ESIA, EHS compliance audits, ESG Risks and Controls, EHS & ESG Due Diligence assessments. Prior to joining Acuity, she was working with companies like KPMG Global Services, EY India and ERM India.

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About Acuity Knowledge Partners

Acuity Knowledge Partners (Acuity) is a leading provider of bespoke research, analytics and technology solutions to the financial services sector, including asset managers, corporate and investment banks, private equity and venture capital firms, hedge funds and consulting firms. Its global network of over 6,000 analysts and industry experts, combined with proprietary technology, supports more than 500 financial institutions and consulting companies to operate more efficiently and unlock their human capital, driving revenue higher and transforming operations. Acuity is headquartered in London and operates from 10 locations worldwide.

Acuity was established as a separate business from Moody's Corporation in 2019, following its acquisition by Equistone Partners Europe (Equistone). In January 2023, funds advised by global private equity firm Permira acquired a majority stake in the business from Equistone, which remains invested as a minority shareholder.

Our expertise includes the following:

- » Investment Banking: origination and trading support
- » Investment Research support: covering all asset classes in terms of ideation, data science, and research support across the buy side and sell side
- » Commercial Lending support: across origination, credit assessment, underwriting, and covenant and portfolio risk for all lending types
- » Private Equity: origination, valuation and portfolio monitoring support
- » Asset Management services support: across marketing, investment research, portfolio management/ optimisation, risk and compliance
- » Corporate and Consulting services: market and strategic research; survey work; treasury and counterparty risk support; and CEO office support, including M&A, FP&A and investor relations support
- » Compliance support: AML analytics, KYC, counterparty credit risk modelling and servicing across banks, asset managers and corporates
- » Data Science: web scraping, data structuring, analytics and visualisation These services are supported by our proprietary suite of Business Excellence and Automation Tools (BEAT) that offer domain-specific contextual technology.

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