Demia: Revolutionizing Climate Data Management with IOTA
Discover Demia

Revolutionizing Environmental Data Management

Demia is a platform revolutionizing data management for environmental projects. With the climate crisis at the forefront of global agendas, the urgency to track, manage, and mitigate environmental data like carbon emissions is palpable. Anchored onto IOTA, Demia revolutionizes environmental data management. Its Zero-Trust Data Fabric ensures transparency and security in carbon markets, impacting stakeholders from operators to purchasers. Demia streamlines processes, enhances reporting accuracy, and fosters trust.

Collaboration with industry standards sets a new paradigm, offering reliable, secure, and transparent solutions for a sustainable future.
Optimized Reporting

Demia’s front end is its open core **Compliance-as-a-Service platform** that users can plug into their facilities. It grants access to essential infrastructure and support for managing emissions data and engaging stakeholders throughout the value chain, thereby reducing operational costs, streamlining auditing processes, and **optimizing credit value**.

As projects enhance their reporting accuracy, Demia contributes to **bolstering trust** in these initiatives and increasing their financial returns.
Demia's Layered Approach

The Zero-Trust Data Fabric is the foundational layer of the Demia Zero-Trust Layer Model, which comprises five layers, each equipped with specialized data-handling capabilities that leverage the layers beneath them.

These layers, in conjunction with Demia’s infrastructure, application suite, and managed services, foster confidence in carbon markets by prioritizing integrity and quality.

**Applications**: Enable easy interactions with carbon data with automated analytics.

**Secure Data Wallets**: Manages tooling and secures data for interacting with carbon data.

**Zero Knowledge File System**: Shards data and secures organizational ownership of data sources.

**Confidential Compute**: Leveraged through hardware partners to ensure on-premises data security.

**Zero-Trust Data Fabric**: Connects devices over IOTA’s data-focused DLT.
Demia Step-by-Step

**STEP 1**
Connect Your Facilities
Integrate Demia's plug-and-play hardware or APIs with your existing facilities to access near-real-time data.

**STEP 2**
Exchange Data
Use Demia's data logistics platform to manage emissions data and engage stakeholders throughout the carbon value chain. Reduce operational costs, streamline auditing processes, and increase credit value.

**STEP 3**
Ensure Data Integrity
Regularly verify data authenticity with Demia's audit partners, who digitally confirm data accuracy each month.

**STEP 4**
Achieve Certification
After six months, your facility becomes certified and receives its first issuance of carbon credits. Certifiers then issue credits quarterly over the project's lifetime based on reliable data from Demia's system, aligning with your facility's output. Sell or hold these credits as desired.
What Demia Offers

Enhanced Data Collection

Plug-and-play hardware that easily integrates with existing facilities. Thanks to IOTAs’ very low hardware requirements and low energy consumption, a broad range of device types can connect to Demia – even battery-powered ones.

Transition from intermittent sampling to comprehensive data collection.

Sensor-based data is securely captured in near real-time to prevent manipulation.

Semi-automated data acquisition with local input interfaces and daily captures.

All data sources contribute to a clear understanding of the project data lifecycle, boosting data confidence.
What Demia Offers

Efficient Project Management

- Track and manage multiple projects simultaneously with a simplified dashboard.
- Projects secured through W3C-enabled DIDs that build on the IOTA Identity Framework to provide digital identities to every device, facility, and organization using the Demia network.
- User-friendly access control management interface for adding new operators, auditors and data sources.
- 3D Digital Twins provide visual insights into project locations as Real World Assets, visually anchoring immutable data and aiding in data interaction.
What Demia Offers

Analytics, Reporting, and Certification

→ Industry-standard methodologies embedded for measuring project impact directly within the dashboard.

→ Real-time analytics enabling an understandable confidence in project data, and a real-time reporting of GHG impact happening on project sites streamline auditing and certification processes. This uses Project Alvarium, developed in collaboration with the IOTA Foundation and Dell Technologies, Intel, the Linux Foundation, and others.

→ Granular data tracking down to individual data points from each source, facilitating monitoring, verification, and validation reports.

→ Data interoperability is ensured through open-source code, methodologies, data structures, and APIs derived from IOTA, Gold Standard and the larger Demia ecosystem.

→ Data authenticity is verified by Demia's audit partners every month.

→ Certification of facilities after six months, enabling them to earn carbon credits

→ Certifiers then proceed to issue credits every quarter aligned with the output from Demia's system, which projects can either sell or hold.
Real-World Use Cases

Demia has incubated its platform internally with the IOTA Foundation with two project operators and their facilities in the waste sector. Previously, these operators were emitting an excessive amount of greenhouse gases and sought to implement emissions capture technology to reduce their carbon footprint and certify their impact. However, existing options were costly, had significant lead times, and lacked scalability.

Demia’s process involves:

→ Shipping hardware to the facility for on-site setup to capture near real-time emissions data.
→ Securing the data via its protocol and making it accessible through the Demia platform, which provides analytics for monitoring, reporting, and verifying emission reductions.
→ Enabling auditors and certifiers to access the data through the Demia platform and APIs, allowing projects to earn credits or trade ITMOs.

This process is scalable with a fixed monthly subscription, eliminating unforeseen expenses, shortening audit cycles, reducing operational costs, and increasing the value of credits.
Find Out More

Experience the Capabilities of Demia

Demia fosters an ecosystem of trust and collaboration to establish guidelines and recommendations, working with industry standards and esteemed organizations such as IETA, ISEAL, ICROA, Climate Change Coalition, The World Bank, Environment and Climate Change Canada, and Gold Standard.

Experience the capabilities of Demia and harness reliable, secure, and transparent data management solutions for your projects.

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About Us

Founded in 2015, IOTA is a public goods infrastructure to bring trust in our digital world. Through IOTA, governments, organizations and people are able to interact with each other in a secure, trusted and verifiable way.

IOTA is one of the most established blockchain projects in the world and is primarily driven by a global ecosystem of non-profit organizations.

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