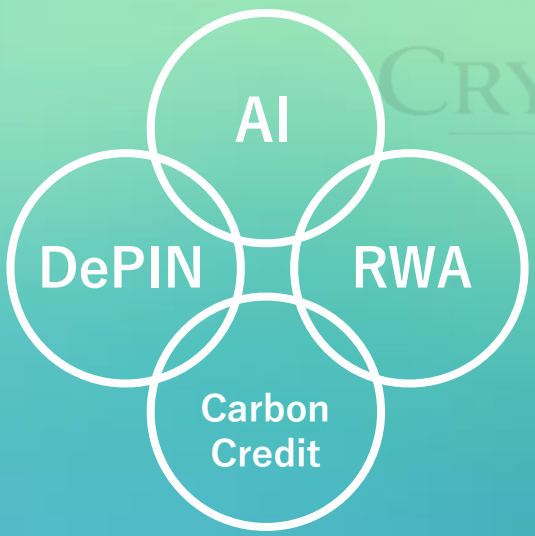
Welcome to

Etarn

Transforming Daily Necessities into Environmental Impact and Economic Growth

「Toilet to Earn」



Build a sustainable "circular ecosystem" and establish global environmental leadership

The native token of this project is “Etarn Token” (abbreviated as “ETAN Token”)

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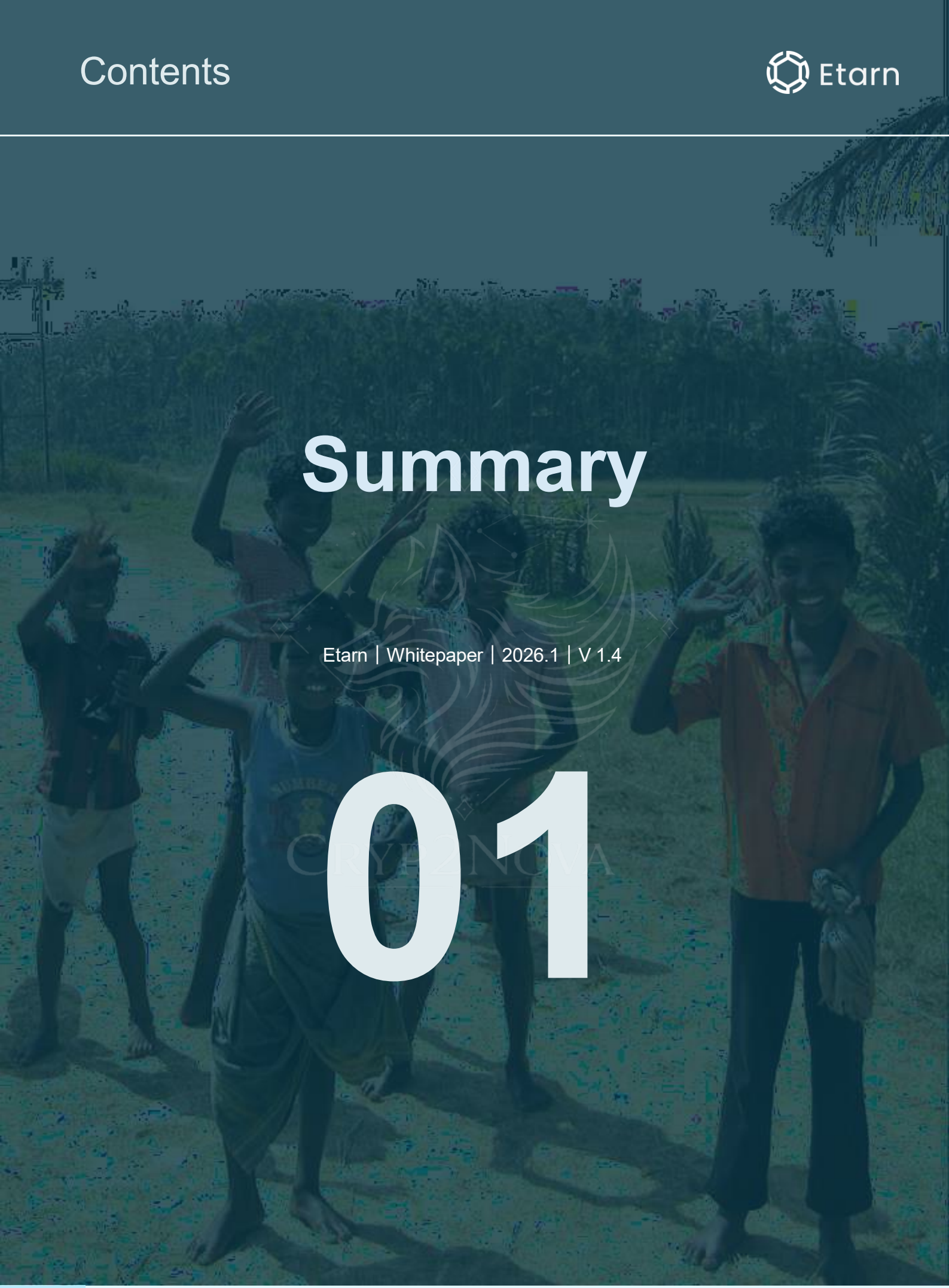
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Summary

Etarn | Whitepaper | 2026.1 | V 1.4

01

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Etarn integrates Japan innovation, AI, blockchain and sustainability to tackle the sanitation crisis in rural and vulnerable areas.

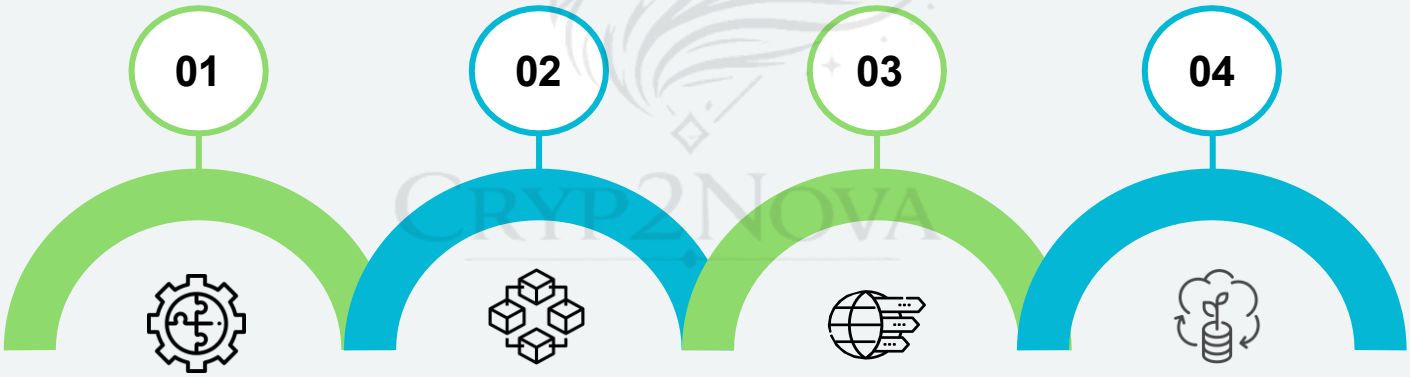
Our solutions convert waste into liquid fertilizer and carbon credits, generating revenue through a "Toilet to Earn" model and promoting sustainable development without relying on traditional infrastructure.

Building on its success in the Chinese market, Etarn is proposing the introduction of next-generation Smart Toilets in India.

By tackling India's sanitation issues with advanced technology, we aim to solve global environmental problems through a new era of toilet solutions.

Our approach includes:

The Four Pillars of the Etarn Ecosystem



Self-sustaining Sanitary facilities	Circular Economy	Giving back to Users	Enviromenrt & Society Impact on
Smart Toilets that operate without external power and use minimal water are ideal for rural areas.	Excrement is converted into fertilizer and carbon credits, creating sustainable value.	The **"Toilet to Earn"** model incentivizes users with ETAN tokens to generate additional income.	Reduce emissions, improve public health, and promote economic inclusion in vulnerable communities.

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Vision & Mission

By combining emerging technologies (AI and blockchain), Etarn solves the world's sanitation problems and creates positive economic and environmental effects.

It expresses our determination to be a tool that supports our communities and contributes to the well-being of the world through our daily act of using the toilet.

Our vision and mission guide us to innovate in the field of public health and the environment and make a significant difference in society by making public health sustainable.



Vision

The simple act of using a toilet can help protect the environment, improve public health, and promote economic independence, thereby creating a world that fosters sustainable and inclusive global communities.

Mission

Leverage cutting-edge AI and blockchain technology to transform the world's sanitation challenges into sustainable economic and environmental opportunities. Utilizing carbon credits, we aim to expand the global development of a sustainable environment centered on next-generation Smart Toilets.



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Etarn: Leveraging AI and blockchain, it provides Smart Toilets that convert excrement into valuable resources such as liquid fertilizer and carbon credits.

These solutions provide economic benefits to local communities while also promoting environmental sustainability.

Etarn's Smart Toilets leverage AI, IoT, and blockchain to transform excrement into a valuable resource while simultaneously monitoring public health and providing incentives in ETAN tokens to promote utilization. This will create a sustainable system that promotes environmental conservation, data-driven infrastructure development, and economic independence of local communities.



What are the advantages of our solution?

Sustainability

Convert waste into fertilizer and carbon credits, reducing emissions and water usage.

Economic Benefits

Through the sale of carbon credits and fertilizers, we generate income for local communities.

Hygiene

Improve hygiene with a clean and efficient sanitation system.

Innovation

Leverage AI and blockchain for transparent and flexible waste management.

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Etarn

Etarn's Smart Toilets are an adaptable solution that provides sustainable hygiene, promoting economic independence and protecting the environment to disadvantaged and resource-scarce regions around the world.

Solar System

All Smart Toilets are powered by solar energy, so they don't need an external power source.

Advantages: Ideal for non-electrified areas, cost-effective and sustainable as it reduces carbon footprint and eliminates dependence on external electricity.



Advantages: Ideal for water-scarce areas, it can save water while ensuring hygienic sanitation and meet local water shortages.



Water-saving operation

The system does not require a conventional water supply for cleaning and disposal of excrement. These toilets are water-saving and significantly reduce water consumption.

No sewage system required

Smart Toilets operate independently of the sewage system and use advanced technology to neutralize pathogenic bacteria and turn excrement into valuable by-products such as fertilizer.

Advantages: Eliminates the need for sewage infrastructure, allowing for safe excrement treatment and fertilizer generation.



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What are the benefits of Smart Toilets?

Etarn's Smart Toilets not only solve hygiene challenges, but also provide a scalable and sustainable solution that promotes environmental conservation, economic independence and public health, and benefits a wide range of stakeholders.

Rural and self-sustaining communities

Smart Toilets operate without electricity or sewage and provide clean sanitation in remote areas.



Water-deficient areas

The low-water design conserves critical resources and provides sanitation to drought-prone areas without depleting local water sources.





No sewage infrastructure is required, and Smart Toilets turn excrement into fertilizer, creating economic opportunities for local communities.

Emerging Markets and Low-Income Regions



Smart Toilets help achieve sustainability and public health goals by reducing emissions, conserving resources, and improving sanitation.

Government & Environmental Organizations

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Project objectives: Etarn will use advanced AI, IoT, and blockchain to tackle India's sanitation crisis, turning excrement into carbon credits and rewarding users with ETAN tokens.

It creates economic opportunities, stimulates local economies, and provides multiple revenue streams.

There are Smart Toilets projects globally that try to tackle sanitation issues with an approach focused on turning waste into a useful resource and reducing public health risks. However, primarily aimed at the Indian market, Etarn stands out for its innovative approach by integrating advanced technologies that maximize both hygiene efficiency and economic and environmental impact.

Common Projects

In countries like India, where lack of access to adequate toilets remains a significant challenge, many projects tackling the health crisis are in focus.

Excrement disposal system	It is a technology that turns excrement, such as the one proposed by Etarn, into fertilizer and other valuable products.
Low-cost solution	It is generally supported by local authorities and NGO initiatives (Swachh Bharat: Clean India).
Traditional Excrement Management Model	Such projects are usually focused on solving public health problems and less on building sustainable ecosystems or leveraging emerging technologies.

Projects like the Reinvent the Toilet Challenge by the Bill and Melinda Gates Foundation focus on cost-cutting as a philanthropic effort, providing temporary gratification but not lasting impact. In contrast, investing in Etarn provides both financial returns and dissemination, enhancing health, safety and human rights, and making meaningful and sustainable social contributions.



Etarn's business opportunity lies in leveraging advanced AI, IoT, and blockchain technologies to not only solve hygiene problems, but also to build a self-sustaining economic model.

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How to grow Etarn in India and make it successful?

We differentiate ourselves from traditional projects by leveraging advanced technologies to turn the challenges of the health crisis into economic, environmental and social opportunities.

While other projects are limited to solving health crises in traditional Indian ways, Etarn is transforming the basic use of toilets into opportunities to create economic and environmental value through technology.



By integrating the ecosystem of AI, IoT, blockchain, and carbon credits, Etarn is not only solving India's health crisis more efficiently, but also leveraging global technology trends and positioning it as a more sustainable, scalable and economically viable solution than other initiatives in the market.

1 Emphasis on the Indian market

In India, the world's most populous country, more than 700 million people lack access to adequate toilets and face a severe sanitation crisis.

Etarn is focused on solving this national challenge by introducing Smart Toilets that not only improve public health, but also promote economic growth in the region.

2 AI and IoT technologies

Etarn utilizes artificial intelligence and IoT sensors to efficiently manage waste disposal as well as monitor public health.

This enables early detection of diseases and provides valuable data that contributes to health decision-making in real-time.

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3 Carbon Credit Ecosystem

It is an ecosystem of carbon credits that are earned in the process of converting excrement into fertilizer.

These credits are traded on the market and provide a global economic incentive to reduce carbon emissions.

4 Toilet to Earn model

Etarn uses a unique model in which users in India are rewarded in ETAN tokens by using toilets and providing data on their usage and environmental impact.

This encourages the proper use of toilets, ensures the sustainability of toilets, and creates a self-sustaining economic cycle that benefits both urban and rural communities.

5 Blockchain and DePIN

Etarn is built on a blockchain that enables fast and secure transactions within the ecosystem, ensuring transparency in reward distribution and traceability of carbon credits.

Etarn connects the project to the global digital economy and is a particularly suitable model for India's rapid digitalization.

6 Multiple revenue streams

While other projects in India rely on one or two sources of income (such as the sale of products derived from excrement), **Etarn diversifies its revenue streams as follows:**

- **Sale of Smart Toilets**
- **Sales of liquid fertilizers**
- **Sale of advertising slots**
- **Sale of carbon credits**

7 Social & Economic influence

In addition to solving the immediate hygiene problem, Etarn provides economic opportunities through the use of tokens.

We can empower local communities in India by creating jobs involved in the installation, maintenance and operation of Smart Toilets, **especially in rural areas where employment opportunities are limited.**

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Profitable Smart Toilets

Etarn's Smart Toilets turn waste into a valuable asset by earning revenue from liquid fertilizer and carbon credits. Profits are shared between users, investors, management companies and installers, creating economic and environmental value.

As the adoption increases, so does the breadth and influence of the project.

General toilets

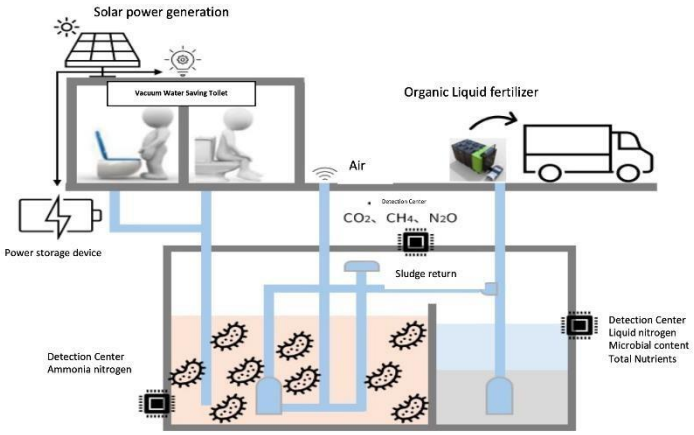
Burden of installation and maintenance costs	Outflow of funds	Toilet Shortage in Developing Countries	Diffusion is difficult and hygiene problems

Smart Toilet



Solution: Smart Toilets powered by AI and blockchain

Each toilet becomes a "mining" machine that creates value from excrement!



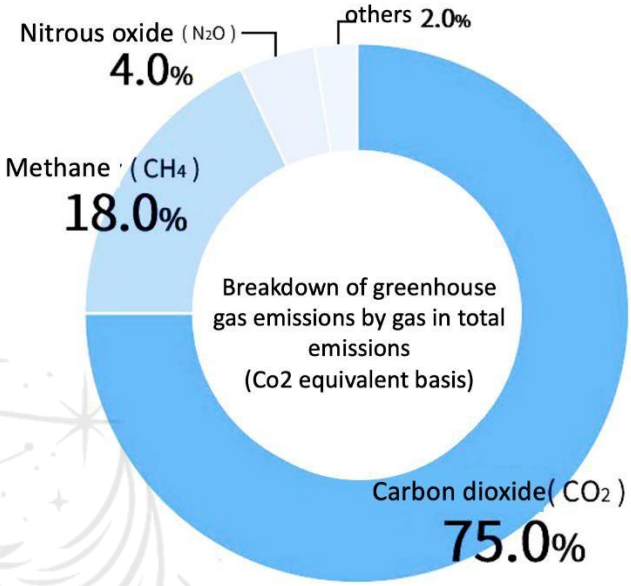
Etarn's Smart Toilets technology uses patented bacteria and micro-nano bubble-generating nozzles (activators) to turn excrement into liquid fertilizer, reducing greenhouse gases.
With the integration of cloud computing and carbon credit measurement, this toilet not only improves the environment, but also creates a valuable asset.

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Reducing greenhouse gases for a sustainable future

Etarn provides carbon credits to governments and businesses as a revenue-generating solution that addresses global warming by reducing CO2 emissions and supports decarbonization.

Etarn can help combat global warming by significantly reducing emissions of CO2 and other harmful gases.
We will work on it.

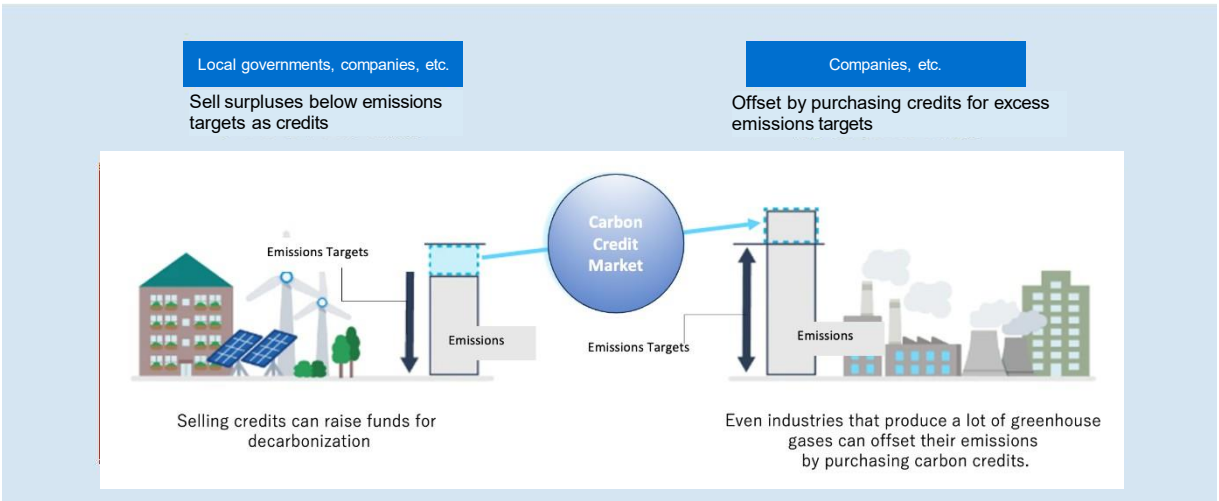


The accumulation of greenhouse gases is an important issue for climate change.
Etarn is directly working to reduce these gases through its waste treatment system and conversion to reusable products like fertilizers and carbon credits.

By reducing greenhouse gas (CO2/CH4/N2O) emissions by more than 80%, our solutions help curb global warming.

Carbon credits for businesses and governments: Turn emissions reductions into revenue by selling carbon credits on a global marketplace.

Harness the value of carbon credits: Etarn allows governments and businesses to sell or buy carbon credits and earn revenue while reducing emissions. This supports economic decarbonization and aligns with global environmental goals.



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Empowering Communities and Promoting Economic Growth

Through ETAN tokens, we will turn sanitation into an income opportunity, nurture local economies, and reduce healthcare costs in vulnerable areas.

Earn as you spend

The **"Toilet to Earn"** model allows users to receive ETAN tokens every time they use them, turning the act of excretion into an income opportunity.





Integration with Local Communities

Children who do not have mobile phones can participate in the system and revitalize the local economy by getting benefits that can be used at local shops.

Reduction of Healthcare Expenditure

Clean and accessible toilets reduce disease outbreaks, reduce family health care costs, and reduce the financial burden on disadvantaged communities.



Blockchain-Protected Health and Environmental Impact

IoT-enabled toilets collect health data and identify disease risk at an early stage to prevent rapid spread and improve public health.

Real-Time Health monitoring

Carbon credit certification is expected to be available in 2026 and is not yet available. We will provide ETAN tokens as a reward for using Smart Toilets.

Carbon Credits



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Success Stories & Our Purpose

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02

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Successful steps for Smart Toilets in China

The Success of Smart Toilets in China

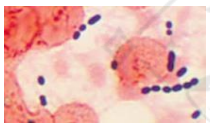
The success of Smart Toilets in China stems from the government-backed "toilet revolution." It leverages patented bacteria to convert excrement into organic fertilizer, and advanced microbial activator enhances excrement treatment, making it widely popular in urban and rural areas.

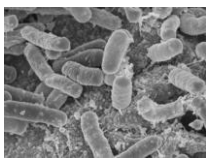


1

Policies of the Chinese government
China's "toilet revolution" is promoting the recycling of human waste into fertilizer, supported by government environmental initiatives.
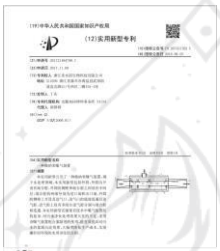






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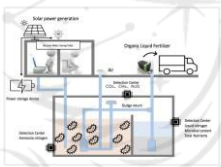
Customized Bacteria Technology
Patented bacterial strains like QS1 and EC11 detoxify excrement and convert it into liquid fertilizer, reducing harmful gases.





3

Microbial activators
The micro-nano bubble generation nozzle increases the activity of bacteria and improves the purification and treatment efficiency of wastewater.



4

Aerobic treatment process
This process quickly converts human waste into liquid fertilizer and reduces greenhouse gas emissions.



5

Fertilizer Certification
Organic fertilizers produced by QS1 and EC11 bacteria are certified by the Ministry of Agriculture of China.



6

Success in the Chinese market
The septic tank treatment product "Chemical Dung Bao" is widely used in various provinces in China to improve hygiene and excrement management.

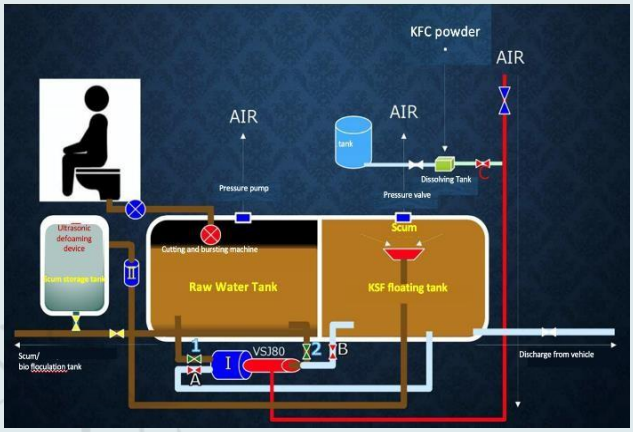
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Smart Toilets Success Stories in China

中国中车股份有限公司
CRRC Corporation Limited

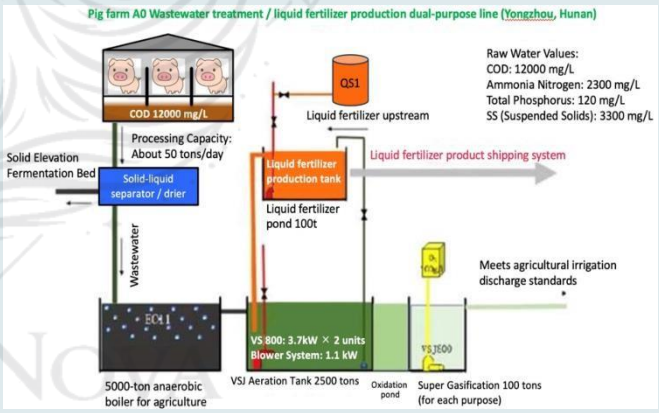
We have successfully designed and completed initial testing of the waste treatment system for high-speed rail car toilets. Currently, we are testing a natural mineral-based solid-liquid separator + catalytic neutralization system that can quickly process waste for track discharge.

We plan to complete the final evaluation by April 2025 and install this system in high-speed trains following official approval. The toilet renovation project for 350,000 train cars will contribute to large-scale infrastructure improvement.



温氏食品集团股份有限公司
Wens Foodstuff Group Co., Ltd.

At one of the world's largest pig farms, we have succeeded in making organic fertilizer by applying special bacteria and treating excrement. The project will focus on efficient waste management in the agricultural sector and deliver economic and environmental benefits.



浙江佳净洁环境科技有限公司
JIAJINGJIE Environmental Technology Co., Ltd.

It is a pioneer in bio-toilet technology that converts human waste into liquid fertilizer. The project aligns with China's sustainability goals and demonstrates large-scale waste recycling.

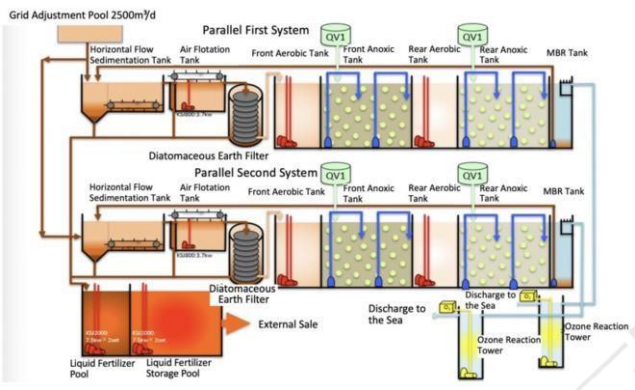




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Smart Toilets Success Stories in China

中石油昆仑燃气有限公司
PetroChina Kunlun Gas Co., Ltd.



We have developed a revolutionary system to purify seafood processing wastewater and turn it into high-level seawater and fish protein fertilizer.

The project will set a new national standard for wastewater treatment.

Essentials

In China, Smart Toilets technology has found success in sectors such as transportation, agriculture, and public infrastructure. Its ability to turn excrement into by-products like liquid fertilizer promotes sustainability.

This multifaceted nature highlights its impact on hygiene and environmental challenges.





1. **Use in a wide range of industries:** Smart Toilets are found in transportation, agriculture and public infrastructure.
2. **Sustainability:** Promoting environmental benefits by converting excrement into liquid fertilizer.
3. **Strong partnerships:** Collaboration with businesses and governments drives adoption at scale.

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Why Japan technology is essential: Japan technology promotes the neutralization of excrement and resource generation, enabling the first fully circular sanitation system.

The technological innovation behind the success of Smart Toilets has its roots in Japan's pioneering technology that cultured special bacteria that revolutionized waste management.

Combining Japan's advanced science with technology introduced in China's toilet revolution, the technology not only efficiently neutralizes pathogenic bacteria, but also converts excrement into organic fertilizer.

Biotechnology pioneer: Japan technology provides essential solutions for the neutralization of excrement and resource generation, forming the basis for this technological innovation.

Successful Collaboration: While China played a key role in the expansion of this solution, Japan's technical expertise makes this Smart Toilets stand out as the world's first to offer a complete circular hygiene system.

The important role of Japan technology

Innovation and Global Collaboration Behind Smart Toilets

This innovation started with bacteria developed in Japan (QS1 and EC11), designed to break down excrement under harsh conditions and turn it into liquid fertilizer. These bacteria prevent foul odors and sludge buildup, creating valuable by-products.



Advanced technology and Global Expansion

The micro-nano bubble generating nozzle increases bacterial efficiency and purifies wastewater 20 times faster while reducing operating costs. Aerobic processes remove harmful gases and pathogens and contribute to public health through real-time data collection.



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Etarn will continue to grow sustainably over the long term while providing next-generation Smart Toilets that optimally combat the health crisis.

The innovation behind the success of Smart Toilets began with pioneering research in Japan. Scientists have discovered and successfully cultured a strain of a special bacterium that can break down human waste and turn it into liquid fertilizer. This groundbreaking technology is a world first and has made it possible to detoxify human waste and recycle it into commercially usable products.

Why India?

FOLLOWING ITS SUCCESS IN CHINA, Etarn HAS ENTERED INTO AN EXCLUSIVE PARTNERSHIP WITH INTELET INC. TO EXPAND INTO INDIA. The partnership will allow Etarn to leverage local expertise and infrastructure, enabling a smooth deployment of state-of-the-art Smart Toilets technology. Like China, India is undergoing a transitional period in terms of sanitation, and Prime Minister Narendra Modi's ambitious goal of building 120 million new toilets and eliminating open defecation has failed to meet key challenges.

What Etarn proposes to India: AI-powered Smart Toilets

The solution that Etarn proposes to India is more advanced than any solution that Etarn has implemented so far. Artificial intelligence (AI) and IoT sensors play a central role in this improved model, making toilets more than just a hygiene solution.

Health data monitoring: Real-time analysis of excrement to detect diseases such as cholera, typhoid fever, and even diabetes at an early stage.

Autonomous operation: It uses solar power and blockchain to track usage, manage waste, and even reward users.

Guaranteed safety of users: Equipped with QR code access, CCTV and alarm systems, these toilets provide a safe environment, especially for vulnerable groups such as women and children.

Etarn's expansion into India is more than just a sanitation project. It is a technology-driven solution that not only solves the country's health crisis, but also aligns with broader goals such as sustainability, public health, and promoting economic independence.

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Sanitation Crisis in India

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03

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Sanitation Crisis in India

In India, as many as 700 million people do not have access to proper toilets, leading to open defecation, illness and water pollution. Inefficient waste management emits greenhouse gases and exacerbates the water crisis. This has serious implications for public health, the environment, and the country's economy.

The problem that India has been facing for many years is a serious sanitation problem = sewage treatment problem. India does not have a sewage system, and 732 million people, or half of the country's population, live without access to adequate toilets. Since there are no toilets, many people defecate outdoors. The problems caused by the lack of toilet environment are risks in terms of hygiene, safety, and human rights. **According to WaterAid in 2017, only 2% of human waste sludge in urban areas is managed and properly treated through sewer systems.**

Sanitary crisis

Restricted access to clean toilets, affecting security and human rights

Limited Access to Clean Toilets Impacts Security and Human Rights: In India and other developing regions, hundreds of millions of people still defecate openly due to the lack of adequate sanitation. This has led to serious problems related to health, safety and human rights, with a particularly serious impact on women and children.

In 2022, 78.39% of India's population had access to basic sanitation services, but more effective solutions are needed in rural areas.

The main victims of this situation are women and children: they often defecate outdoors during the dark hours to avoid the public eye, which increases the risk of rape and assault. The BBC's India Report (2018) revealed that many women in rural areas are afraid to leave their homes due to a lack of privacy and constant sexual assaults.





Reference：https://www.wateraid.org/in/the-crisis
https://tradingeconomics.com/india/people-using-basic-sanitation-services-percent-of-population
https://www.downtoearth.org.in/water/is-open-defecation-back-in-india

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High risk of hygiene that causes disease



Lack of sanitation facilities contributes to the spread of disease, especially among vulnerable populations, which affects public health.

According to Drishti IAS, about 500 children under the age of 5 die every day in India from diarrheal diseases caused by unsafe water and poor sanitation.

In addition, 163 million people do not have access to safe drinking water and 210 million people do not have improved sanitation.

Inefficiencies in waste management

Environmental impact

Water scarcity: Especially in areas already affected by drought and water scarcity.

According to the NITI Aayog report "Composite Water Management Index", **India ranks 120th out of 122 countries in terms of water quality, with nearly 70% of it being polluted. Around 453 million people in India are at risk of diseases due to water pollution.**



Greenhouse gas emissions: In India alone, untreated waste generates millions of tones of methane each year, exacerbating climate change.

Inadequate sewage systems: The use of traditional toilets exacerbates this crisis, wasting hundreds of liters of water every day.

Reference : https://www.who.int/data/gho/indicator-metadata-registry
https://www.drishtiias.com/daily-updates/daily-news-analysis/world-bank-report-on-global-water-crisis

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In response to these problems, accessible and ecological toilet projects were launched in India, but their success was limited.

Existing initiatives: Various organizations have launched projects to address the sanitation crisis in India, most notably the Bill and Melinda Gates Foundation. Their "Reinvent the Toilet Challenge" project is one of their most ambitious initiatives, exploring technological solutions that effectively manage human waste and promote sustainability.

The project has promoted the development of toilets that are not connected to the sewer network and operate with minimal electricity, with the aim of making them accessible to disadvantaged communities.

Another important project is the Swatch Bharat Mission (Beautiful India) promoted by the Government of India. The program, which seeks to eliminate outdoor defecation by building 120 million new toilets, has had limited success due to sustainability and maintenance issues.

Failure Factors in Sanitation Projects in India

In India, despite significant efforts by governments and international organizations to improve access to toilets, a combination of structural and social factors has led to the failure of many projects. **Here are the five most critical factors:**

Problem.1
Issues of use and cultural acceptance

Sanitation measures efforts often do not take into account local cultural practices and perceptions regarding the use of toilets, and in many rural areas, open defecation has become a socially accepted and preferred practice due to inadequate hygiene education.



Problem.2
Monitoring and Maintenance System lack

After the toilet is installed, there is little long-term monitoring of its use and condition. The project lacks regular maintenance and systems to ensure efficient operations.



Reference：https://www.gatesfoundation.org/our-work/places/india/sanitation

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Problem.3
Gender inequality and Sexual Violence

Women and children in India are vulnerable to sexual violence due to their lack of access to safe private toilets, and are forced to defecate outdoors, especially at night.



Problem.4
Lack of public health monitoring

Traditional healthcare solutions fail to contribute to public health monitoring, missing opportunities to detect disease early and prevent large-scale outbreaks.



Problem.5
Economic inefficiencies and High operating costs

Traditional sanitation and waste management systems are expensive to install and maintain, especially in rural and low-income areas. This is an economic burden that the community cannot bear in the long term.



How to solve these problems?

Etarn as an innovation in hygiene and sustainability

Traditional projects have failed due to a lack of sustainability, incentives, and efficient waste collection and disposal systems. With an approach based on advanced technology, Etarn not only addresses sanitation issues, but also provides comprehensive solutions that generate economic benefits, improve public health, and protect the environment through waste management and blockchain innovations.

	1	Etarn is tackling this problem by introducing a "Toilet to Earn" system. In addition, these toilets are designed to be easy to use and maintain, minimizing cultural barriers and encouraging behavior change.
Issues of use and cultural acceptance		**Benefits:** Incentivize toilet users, provide direct economic benefits to participating communities, and promote long-term adoption.

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2	Etarn incorporates IoT sensors that allow you to monitor the condition and maintenance of your toilet in real-time. These sensors automatically detect when cleaning or maintenance is required and alert the operator on site. This will ensure that the toilet continues to operate normally.
Monitoring & Maintenance	**Advantages:** Continuous monitoring and preventative maintenance ensure that the toilet is always available, preventing deterioration and improving the long-term sustainability of the project.
3	Etarn toilets are equipped with advanced security systems such as alarms and surveillance cameras to protect the privacy of users. The door is also unlocked with a QR code, so the identity of the user is verified and only authorized people can use it. In case of danger, the user can activate the alarm system.
Gender Inequality and Sexual Violence	**Benefits:** Risk mitigation and integrated security systems deter attackers, reduce the risk of sexual violence, and provide a safe environment for women and children. Privacy is ensured, and the quality of life and safety are greatly improved.
4	Etarn's toilets are equipped with advanced sensors that analyze excrement for key health indicators, such as infections, glucose levels, and the presence of white blood cells, allowing for early detection of infections. This information is sent in real time to the local health system and to the user's mobile device.
Lack of public health monitoring	**Benefits:** Enabling early detection of disease allows for rapid and proactive intervention by health authorities, reducing the spread of infection and improving public health outcomes. Governments can efficiently monitor the health of their populations.
5	Etarn toilets are fully self-sustaining thanks to solar energy and advanced technology, eliminating the need for expensive electrical connections, as well as generating income through the sale of liquid fertilizer and carbon credits.
Economic inefficiencies and High Operating Costs	**Benefits:** Economical: The system is self-sustaining from the sale of fertilizers and carbon credits, eliminating the need for subsidies or ongoing funding, and reducing the cost of running the community.

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Etarn as a comprehensive solution

Through the integration of advanced technologies such as AI, IoT, and blockchain, Etarn not only solves sanitation and sanitation problems, but also promotes economic inclusion, generates self-sustaining income, and ensures efficient utilization of natural resources. This makes Etarn a superior and sustainable solution compared to conventional projects in India and other regions affected by the sanitation crisis.

Comparison of similar projects in Etarn and India

By integrating advanced technology, blockchain, AI, and self-sustaining economic models, Etarn will revolutionize the way sanitation systems are conceived and operated. This approach allows us to build ecosystems that not only solve immediate problems, but also benefit people, local economies, and the planet in the long run.

Etarn stands out in several important ways.

Essentials	Etarn	Other Projects
Leverage technology	AI, IoT, Blockchain, Real-Time Data Analytics	Most of them are mechanical, with some basic technical improvements
Income Generation	Diversification of revenue sources (liquid fertilizer, advertising, carbon credits, etc.)	Blockchain-based fertilizer sales without incentives
Energy Efficiency	Use of solar energy, water recycling	Conventional water and energy consumption, no renewable energy
Business Expansion Ease	Based on a decentralized network (DePIN)	High cost of implementation, lack of proper infrastructure
Environmental impact	Greenhouse Gas Reduction, Tradable Carbon Credits	Efficiency is uneven and there is no direct focus on carbon emissions
Health monitoring	Real-time analysis of excrement for disease detection	Unavailable or limited, no automated analysis
Security	Advanced security system with alarms, cameras, and sensors to prevent harassment and ensure privacy	Lack of focus on user security leaves them vulnerable, especially in rural areas

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Unique benefits of Etarn

Etarn is positioned as an innovative and forward-thinking solution for traditional sanitation projects. With a focus on blockchain integration, future revenue generation through carbon credits, and the use of sustainable technologies such as AI and IoT, it is an excellent option for addressing health and environmental crises in India and other vulnerable regions.

Advantage	Key Benefits
Decentralized Economy	**Earn on toilets:** Incentivize users with ETAN tokens to improve the correct use of toilets and provide a new source of income.
Carbon Credits	**CO2 Reduction & Revenue:** Users can earn ETAN tokens by using Etarn's Smart Toilets, which can later be used to earn carbon credits. Monetization of carbon credits is planned for 2026 or later.
Salf-sustaining technology	**Solar energy and water recycling:** The energy system of the Smart Toilets is self-sustaining, which allows them to be deployed in remote areas where there is no sewage infrastructure.
Real-time health monitoring	**Automated excrement analysis:** Enables continuous monitoring of public health and helps prevent disease outbreaks due to early detection of indicators.
Security	**Advanced security systems:** Alarms, cameras, and sensors ensure the safety of women and children in areas vulnerable to sexual violence.

Alignment with the Indian context: Etarn is closely aligned with the Government of India's sustainability initiatives and efforts to improve sanitation infrastructure.

Alignment with Swachh Bharat

Etarn supports the Indian government's mission to eliminate open defecation and improve hygiene. This mission goes one step further by integrating advanced technology, making toilets not only hygienic, but also income-generated.

Contribution to the Sustainable Development Goals (SDGs)

SDG6: Promote hygiene through Smart Toilets.
SDG7: Support energy efficiency in waste management.
SDG13: Contribute to climate change mitigation through the creation and trading of carbon credits

Relevance to India

India is one of the most vulnerable countries to climate change, and Etarn is committed to both sanitation issues and greenhouse gas emission reductions. Not only does it improve public health, but it also creates economic opportunities by providing solutions.

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Etarn Solutions & Business Models

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04

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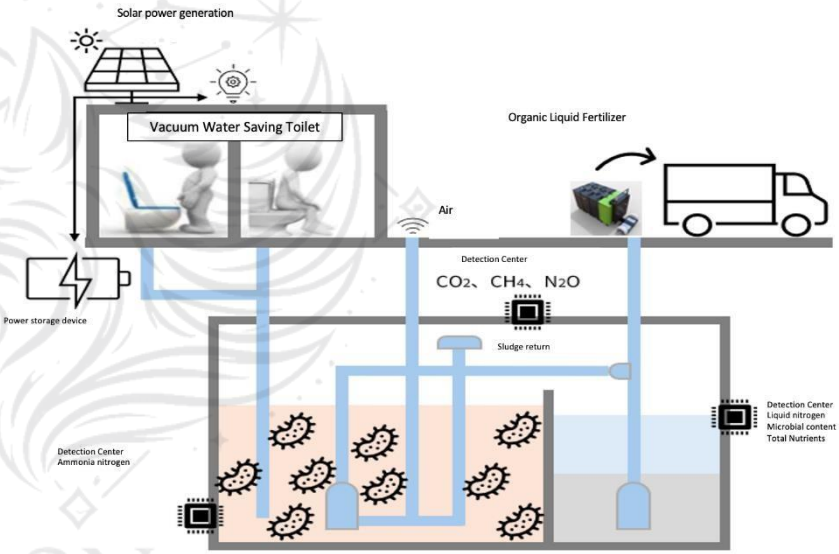
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Etarn offers a diverse range of products and services in line with its mission to transform the world's sanitation through advanced AI, blockchain, and sustainability technologies.

System flow and step by step

1. **Deploy Smart Toilets:** Install sustainable solar-powered toilets with minimal water volume.
2. **AI-powered quality control:** Manage the process of converting excrement into liquid fertilizer.
3. **Data collection and health monitoring:** IoT sensors collect health data to identify trends and disease risks.
4. **Blockchain-based rewards:** Users can earn ETAN tokens by using Etarn's Smart Toilets, which can be used at local merchants, increasing community engagement.

The system efficiently converts waste into valuable products like fertilizers and carbon credits, while rewarding users with ETAN tokens, promoting both environmental sustainability and economic incentives for local communities.



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Features of Smart Toilets

1	Powered by AI and IoT Data collection and processing	**IoT sensors:** Installed in smart restrooms, they collect real-time data on facility usage, user health, and environmental impact. These sensors enable continuous monitoring and automatically generate maintenance reports. **Excrement disposal:** Smart Toilets neutralize pathogenic bacteria in excrement and convert them into reusable products such as organic fertilizers. These products are sellable and generate revenue.
2	Public health management and monitoring	The data collected by the sensors is also used to monitor health indicators, detecting potential disease outbreaks through the analysis of excrement. This allows for early intervention by health authorities.

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3 Maintenance Decentralization

Smart Toilets are managed in a decentralized manner, using a DePIN (Decentralized Physical Infrastructure Network) network. This ensures efficient monitoring and automation of maintenance tasks, extending the life of the system.

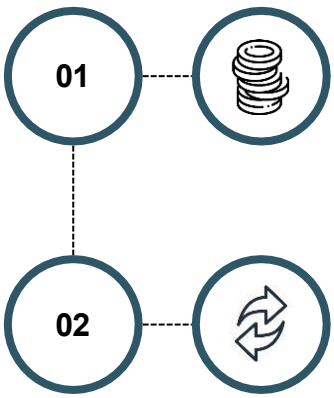
4 Health Checks and Management

All you have to do is scan the QR code on the toilet and you can do a health check. The test items include white blood cells, glucose, protein, etc., and the test results are sent to the user's mobile phone.
Benefits: Provides a real-time health monitoring system, enabling the discovery of potential health problems and the improvement of public health.

5 Security and Alarm system

It uses QR codes when using the restrooms and has a security system that includes an alarm system in case of emergency.
Benefits: Users ensure a protected environment, reduce the risk of sexual violence, and guarantee privacy.

Benefits with ETAN Tokens



Blockchain-backed rewards with ETAN tokens

Every time a Smart Toilets is used, users earn ETAN tokens as a reward. ETAN tokens can be used at local shops and, in the future, to acquire carbon credits. This promotes community participation and allows people to realize the value that Smart Toilets create.

Exchange

From 2026 onwards, certified carbon credits will be traded on carbon markets, where companies are expected to purchase carbon credits to offset their emissions and generate revenue for both the Etarn platform and the participating communities.

Manure

Production of liquid fertilizers

Smart Toilets contribute to environmental sustainability by producing liquid fertilizer from waste disposal and selling it to farmers.

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Through AI, Etarn not only optimizes operations and reduces environmental impact, but also offers the added benefit of early detection of health issues in the community.



Etarn's AI increases efficiency and sustainability by automating cleaning, ensuring fertilizer quality, and reducing emissions. In addition, it provides health data from excrement analysis to support environmental goals and community well-being.

1 Automatic toilet cleaning	The AI on the Etarn automatically schedules and controls toilet cleaning, ensuring regular maintenance without human intervention. This allows you to maintain hygiene, prevent the accumulation of excrement, and reduce the need for constant human supervision.
2 Quality Control of Liquid Fertilizers	AI monitors the quality of liquid fertilizers produced in the Etarn system. This includes an analysis of the ingredients to ensure they meet safety and efficacy standards. AI also manages the production process, detects and corrects deviations, and optimizes fertilizer efficiency.
3 Reducing Greenhouse Gas Emissions Optimized for	In Etarn's system, AI regulates the process flow and minimizes greenhouse gas emissions. This means analyzing and optimizing each stage of the waste disposal process to reduce environmental impact and support sustainability.
4 Excrement data analysis for disease detection	AI analyzes human waste data, such as urine and feces, to detect early signs of disease. This technology makes it possible to identify health indicators and helps to monitor public health in the area where Smart Toilets are installed.

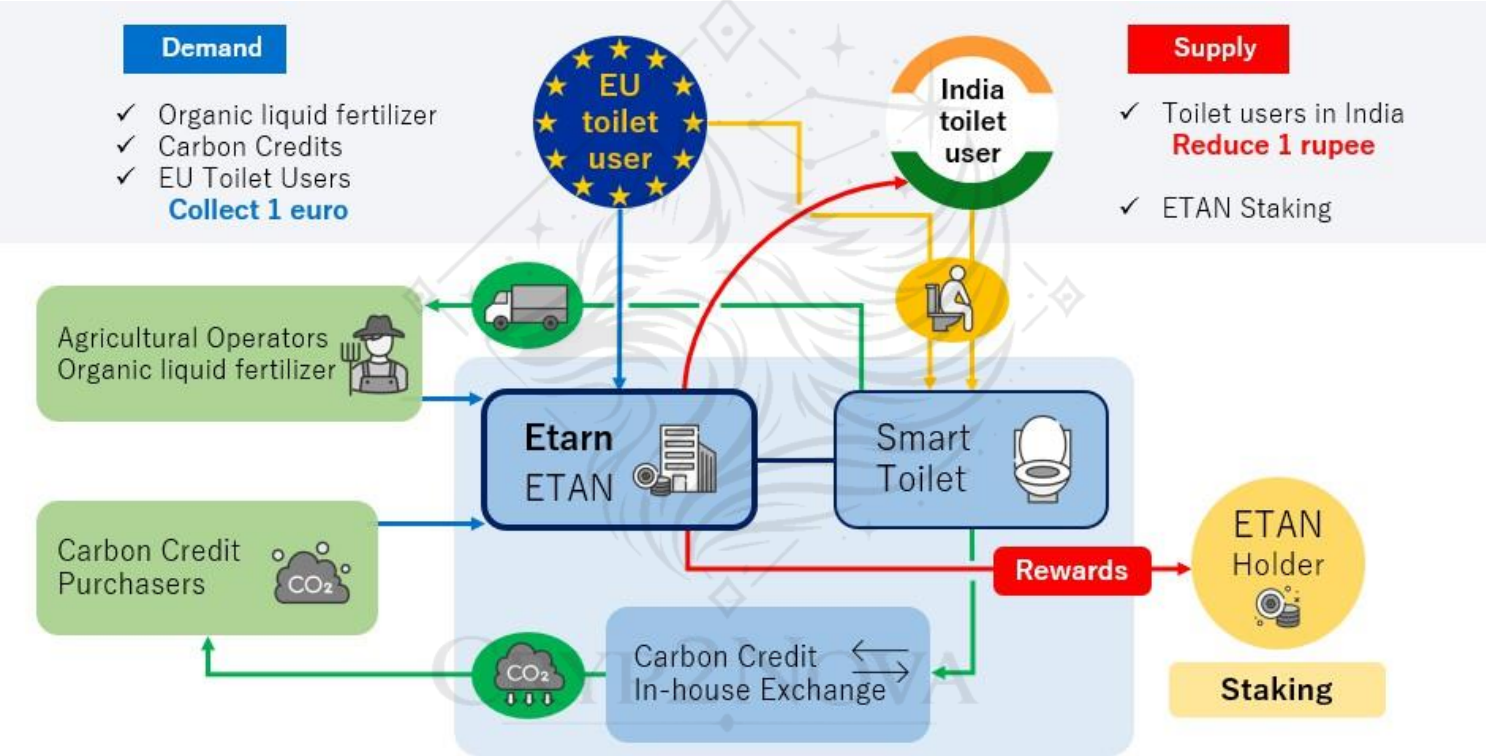
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DePIN x Smart Toilets: DePIN not only ensures the long-term sustainability of the project, but also maximizes the profitability and adoption rate of innovative technologies in high-demand regions like India.

DePIN - Distributed Physical Infrastructure Network

The system utilizes blockchain technology to build and manage various physical infrastructures in the real world.



Contribution: You will receive ETAN tokens for your contribution.

Demand: Liquid fertilizers sold to farmers and others, as well as carbon credits, are sold to businesses and individuals who need carbon offsets. The EU and other developed countries collect fees from toilet users.

Supply: In India, people earn ETAN tokens as a reward for using toilets, contributing to the recycling of excrement.
ETAN token holders can receive rewards through staking.

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Collaborate with your target audience

Etarn

Target Audience: Etarn is primarily focused on rural areas and children in India, providing sustainable sanitation solutions and opportunities for economic growth.



End Consumer (Rural and Urban)

Consumers are motivated by the incentive to earn ETAN tokens through the use of Smart Toilets, which in turn has a direct impact on their well-being and the environment.

Collaboration: Etarn can work with governments, businesses, NGOs and farmers to provide sustainable sanitation solutions that generate income and reduce emissions.



Government & Government engine

The solutions provided by Etarn not only address health issues, but also generate income and promote sustainability.



Private companies and juridical person

Companies can invest in Smart Toilets, participate in carbon credit trading, and use ETAN tokens as a tool for innovation and sustainability.



Non-governmental organizations（NGO）

Etarn provides a sustainable and self-sufficient solution that can be easily financed and managed by NGOs, with immediate positive impacts on public health and the environment.



Farmer

Farmers have the advantage of being able to purchase liquid fertilizers at competitive prices, which helps them to sustain farming.

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Etarn connects various sectors to solve sanitation problems and at the same time create a comprehensive economic model. Governments, financial institutions, and local businesses work together to ensure the profitability of Smart Toilets.

Multi-departmental collaboration and cooperation



We are promoting cooperation between national and state governments, financial institutions and local businesses to introduce Etarn Smart Toilets.

1

Government
We will support you by allocating land for installation and subsidizing operating funds.

2

Financial institution
The financial institution provides the medium-term loan through a special purpose company (SPC) that manages the business, and the SPC ensures that the loan, installation, and repayment are made.

3

Regional Business
It participates in the production, installation, maintenance and sale of products derived from toilets, such as liquid fertilizers, creating jobs and contributing to the economic development of the region.

The plan involves multiple sectors to create a self-sustaining ecosystem, strengthen local economies and improve sanitation infrastructure.

01

Profitability of Smart Toilets

Comparing traditional toilets and Etarn Smart Toilets, we can see that the former has higher installation and maintenance costs, while the latter is more cost-effective.

Smart Toilets: Through the sale of liquid fertilizer and carbon credits, these toilets generate income for investors, owners, and even users.

Business Cycle: Users who use Smart Toilets contribute to the construction of more facilities, which in turn generates more revenue for investors and promotes network effects. The financial rewards are fairly distributed among the various parties, benefiting all.

02

Revenue from use

Etarn allows users to earn income simply by using Smart Toilets.

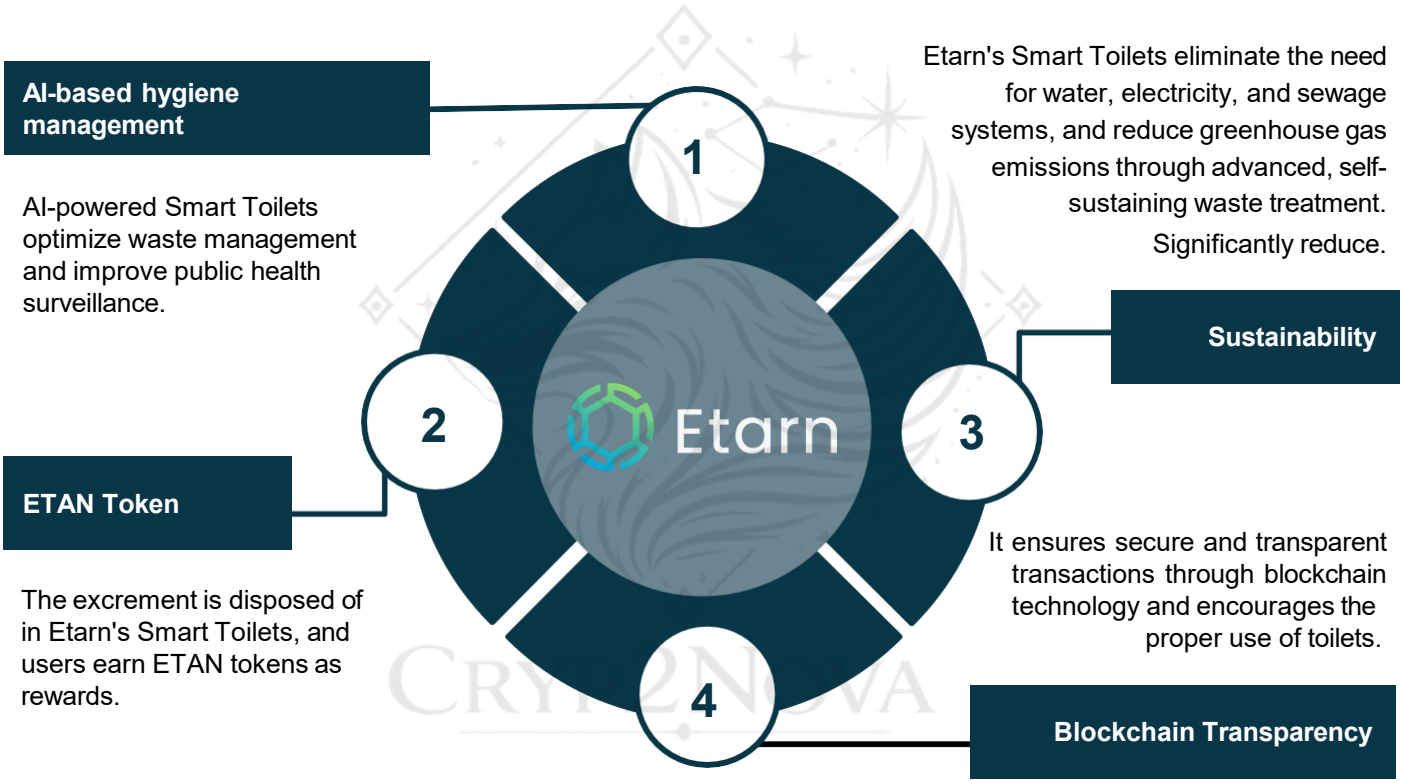
Rewards for use: Every time you use a restroom, you'll receive ETAN tokens, which will not only encourage you to use the restroom, but also provide a source of income for you.

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Value proposition: Etarn is a smart solution that combines AI and blockchain to tackle hygiene issues, turn excrement into resources, and reward users with ETAN tokens.

Through Smart Toilets powered by advanced AI and blockchain technology, Etarn will address critical issues such as limited access to safe sanitation and inefficient waste disposal, while generating revenue and promoting economic inclusion in vulnerable communities. By leveraging the profits from future carbon credits and commercializing derivative products like fertilizers, Etarn is building a self-sustaining model that encourages active participation of users and businesses in the circular economy.



Positioning of Etarn

For the community

In addition to improving their quality of life through better sanitation, users can also be financially rewarded through the "Toilet to Earn" system, encouraging participation and continuous improvement of the environment.

For Companies

Etarn offers the opportunity to participate in innovative and sustainable projects that provide direct economic benefits through participation in carbon credits and the token economy.

For Governments and NGOs

Etarn is a powerful tool for solving sanitation problems, improving public health, and achieving sustainable goals.

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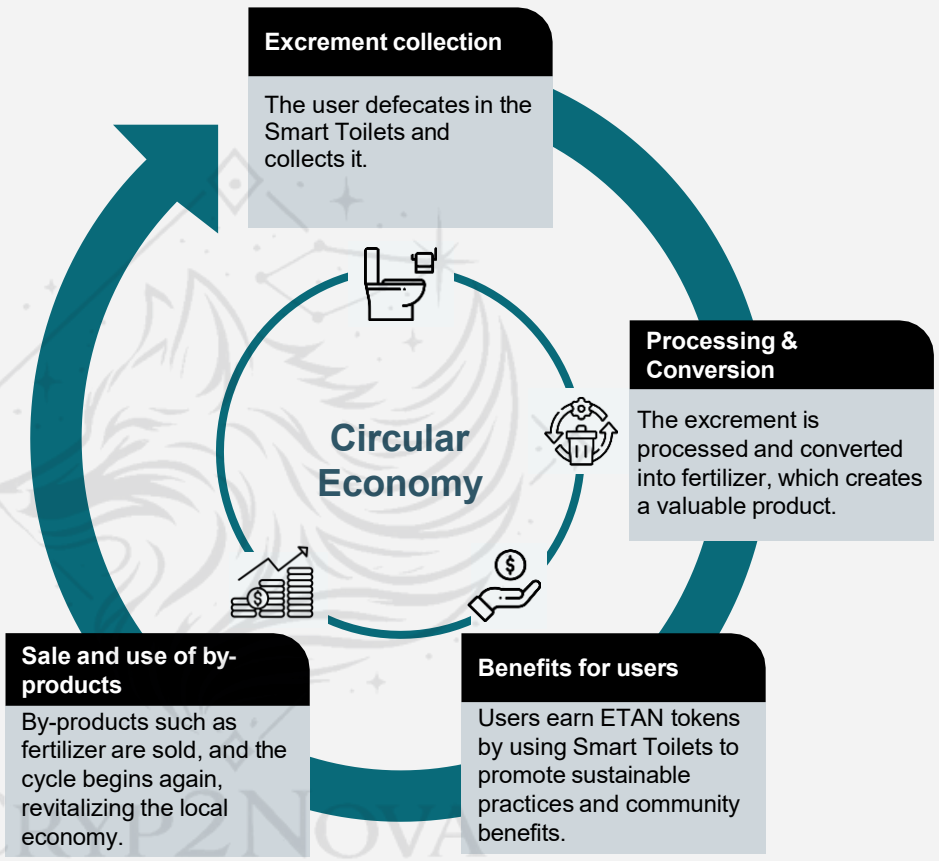
Etarn's Circular Economy Business Model

Etarn‘s business model is based on the principles of a circular economy, where resources are reused and optimized to create economic, social and environmental value.

Below we explain how Etarn applies this model.

This cycle creates a self-sustaining system that rewards users with ETAN tokens, encourages active participation, and stimulates the local economy through the sale of derivatives.

In this way, Etarn not only tackles hygiene issues, but also promotes economic development and contributes to the welfare of the global environment.



Circular Advantages of the model

Etarn has a diverse source of income, which ensures a stable income and ensures financial stability even when a certain area faces difficulties.

Risk Mitigation

The easy-to-scale model of Etarn supports local economies by enabling growth in new regions, increasing revenues and creating jobs.

Adaptable and scalable

Etarn reduces pollution and improves communities by generating revenue from excrement, driving sustainability and enhancing economic inclusion.

Social and environmental impacts

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Revenue streams: Etarn's monetization points diversify revenue from the sale of Smart Toilets to trading carbon credits, ensuring sustainable profitability.

These revenue streams facilitate large-scale adoption while having a positive impact on both society and the environment.

Monetization		Example	Our Strengths
1. Sale and installation of toilets	Revenue from the sale and installation of Smart Toilets to governments, NGOs, and private entities.	The Indian government buys Smart Toilets to solve the healthcare crisis, and Etarn offers discounts linked to ETAN tokens to promote adoption.	Generate instant cash flow and accelerate adoption. Token-based incentives encourage loyalty and continued use of the ecosystem.
2. Liquid fertilizer	Proceeds from the sale of liquid fertilizer products to the agricultural sector.	Etarn turns excrement into fertilizer and sells it to local farmers in India.	Turn debt (excrement) into valuable assets, reduce pollution, and create new revenue streams.
3. Advertisement	Revenue from the sale of digital signage and targeted advertising inventory.	In addition to local companies, we sell to companies from all over the world who want to reach the Indian market.	We will create a revenue stream from the improvement of the brand value of advertisers through social contributions and high visibility and diffusion.
4. Carbon Credits	From 2026 onwards, Etarn plans to sell the certified carbon credits generated from Smart Toilets to businesses and individuals seeking emission offsets.	Companies and consumers purchase these credits to achieve their sustainability goals.	Etarn is capitalizing on the broad demand for carbon credits to generate revenue while promoting sustainability.
5. Transaction fees	Earn revenue from transaction fees within the Etarn ecosystem.	Transactions within the Etarn ecosystem, such as the purchase of goods or the exchange of tokens, incur fees.	We provide stable and growth-potential earnings that are linked to the growth of the ecosystem.
6. Token Buyback Mechanism	A portion of the profits will be used to buy back ETAN tokens, supporting the token's value and rewarding stakeholders.	Etarn uses a portion of its proceeds to buy back ETAN tokens, increasing their demand and value.	It stabilizes the value of tokens, rewards investors, and encourages long-term participation.

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Income diversification: Etarn's revenue structure is flexible and sustainable, allowing projects to grow stably and sustainably.



Positive Feedback Loops

All revenue streams are interconnected, and success in one area drives growth in another. For example, if the number of toilets increases, the total amount of excrement will increase, and the sales of fertilizer and carbon credits will increase.

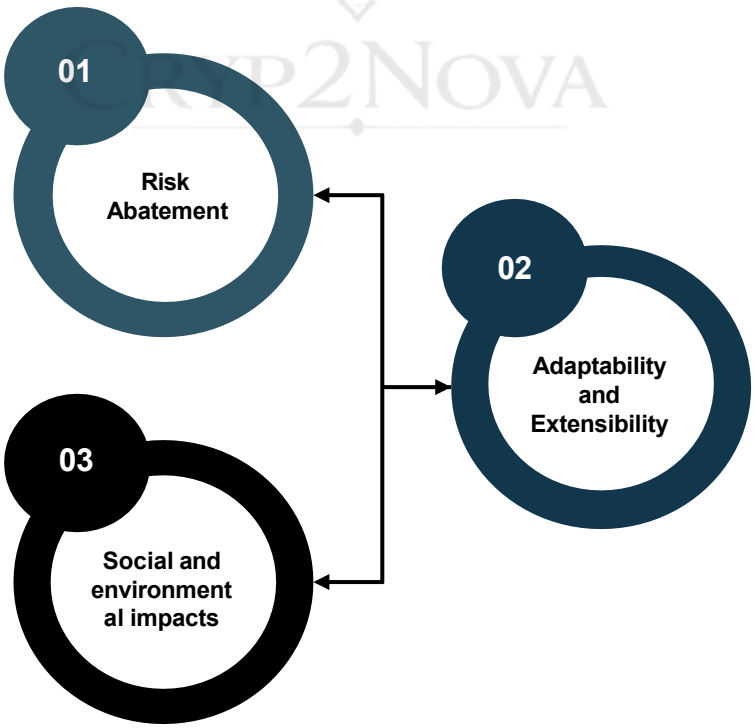


Scalability and Sustainability

By having multiple sources of income, Etarn is not dependent on a single business. This diversifies risk and allows us to continue our business even if one source of income is impacted. In addition, it directly contributes to economic, environmental and social sustainability, ensuring a positive impact on all fronts.

Etarn's revenue diversification is designed to ensure the financial stability and sustainable growth of the project, while at the same time maximizing its environmental and social impact.

Etarn has a diverse revenue stream, which ensures a stable income and financial stability even when a certain area faces difficulties.



The easy-to-scale model of Etarn supports local economies by enabling growth in new regions, increasing revenues and creating jobs.

Etarn reduces pollution and improves communities by generating revenue from waste, promoting sustainability, and enhancing economic inclusion.

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Advantages of Etarn Introduction in India

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05

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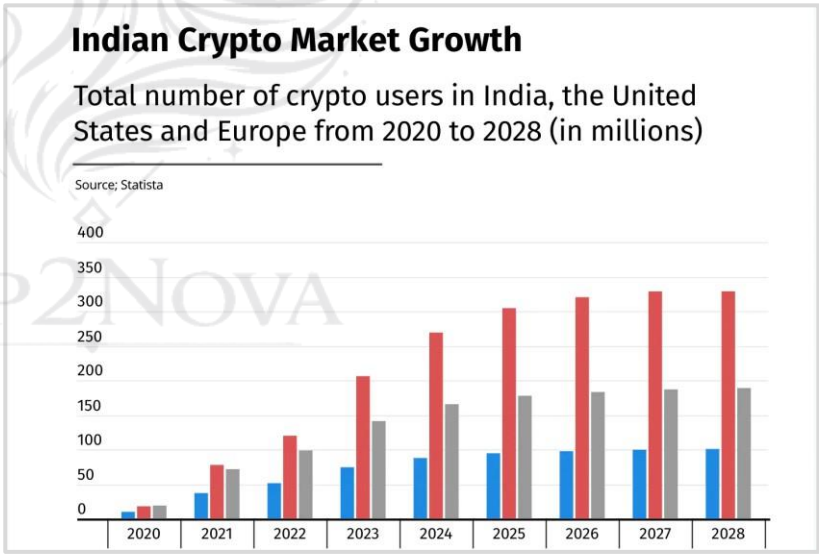
Blockchain and Crypto Assets Driving Sustainable Solutions like Etarn in India

Etarn has a high potential for success in India due to the increasing adoption of cryptocurrencies and blockchain, as well as the openness of the country's young population and local governments to advanced technological solutions.

The adoption of cryptocurrency and blockchain technology in India has grown significantly in recent years, positioning the country as one of the most important markets in this sector. According to the latest 2024 data, **India has led global cryptocurrency adoption for two consecutive years. With over 35 million active crypto trading accounts, India has become one of the largest emerging markets for blockchain technology.**

According to a Chainalysis report, India is projected to rank first in the Global Cryptocurrency Adoption Index by 2024, surpassing countries like Nigeria and the United States. The use of ETAN tokens aligns perfectly with the growing market interest in cryptocurrency and blockchain participation. The use of ETAN tokens is fully integrated with the market's growing focus on cryptocurrency and blockchain technology participation. Backed by diverse revenue streams, ETAN tokens reward users and distribute profits to toilet owners.



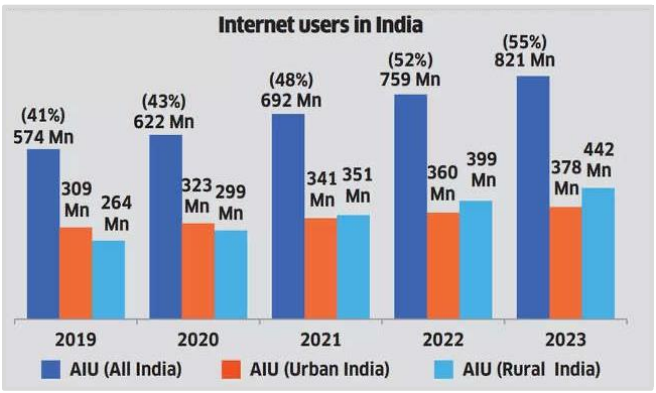


Cryptocurrency Ownership in India: By 2023, 6.55% of India's population—over 93 million people—owned cryptocurrency. This solidifies India as one of the largest cryptocurrency markets in the world, demonstrating the presence of a strong and established user base that has already embraced digital assets.

Blockchain Use Cases in India: Blockchain applications in India extend beyond cryptocurrency. The country has embraced blockchain technology across various sectors, including healthcare, public administration, and trade, to enhance transparency.
Additionally, businesses are exploring blockchain to improve supply chain management, optimize agricultural processes, and streamline business operations, further driving innovation and efficiency across industries.

Reference : https://www.financialmirror.com/2024//india-to-top-270-mln-crypto-users-more-than-us-europe-combined/
https://bitcoinke.io/2024/09/2024-crypto-adoption-index/

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Comparison of rural and urban areas

In urban areas, blockchain and cryptocurrency adoption is most advanced. However, in rural regions, where only 40% of the population has internet access, adoption remains more limited. Despite this, the potential for growth through inclusive digital financial solutions is significant, presenting opportunities for expanding blockchain-based innovations to underserved communities.

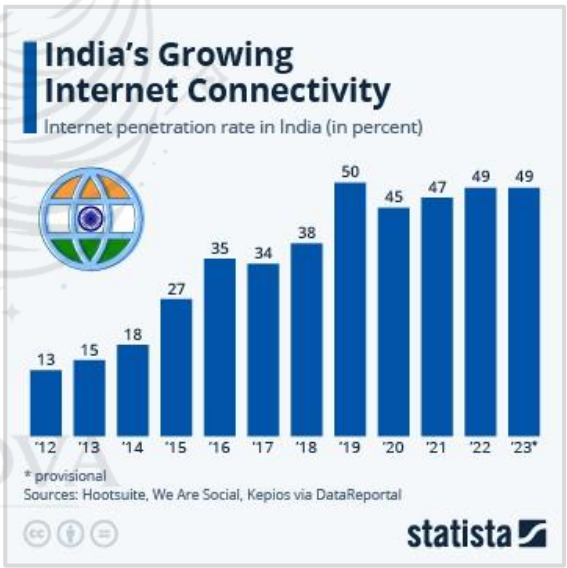
Rural Adoption: While adoption in rural areas has been slower, the expansion of mobile internet access and government-led digitalization programs are gradually bridging this gap.
As telecommunication infrastructure continues to improve, the long-term potential for Etarn's adoption in rural regions could be significant, driving broader financial and technological inclusion.

Internet connection in India

India has established a robust digital infrastructure, surpassing 700 million internet users by 2022, achieving an overall 50% penetration rate. While urban internet penetration exceeds 67%, rural areas still lag at 37%.

Despite this gap, mobile network access and the increasing use of smartphones are driving the adoption of digital solutions even in rural regions.

Access to mobile technology is expanding rapidly, driven in part by government initiatives aimed at bridging the digital divide. These efforts are accelerating the adoption of blockchain and token-based solutions, fostering greater financial and technological inclusion.



Feasibility of Etarn Technology in India

Given this landscape, Etarn's innovative solution, which integrates IoT, AI, and blockchain, aligns well with India's expanding adoption of digital technologies. The use of ETAN tokens, backed by diverse revenue streams, seamlessly integrates into a market that is already witnessing increasing participation in cryptocurrency and blockchain technology. The implementation of the "Toilet to Earn" model is particularly feasible in urban areas, while in rural regions, further infrastructure development may be required to support widespread adoption.

Reference : https://www.statista.com/chart/30029/internet-penetration-rate-in-india/.https://economictimes.indiatimes.com/tech/technology/how-india-is-using-the-internet

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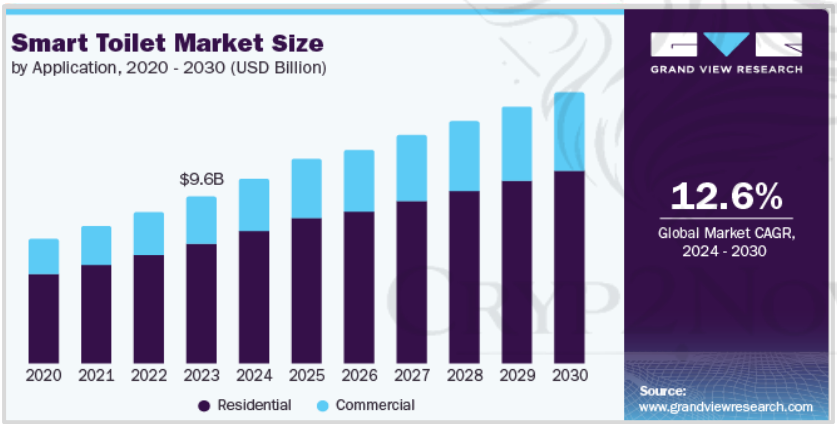
Etarn's Market Advantage: Smart Toilets Industry

The Smart Toilets market is experiencing significant growth, with an annual growth rate of 10–15%, projected to reach $7–10 billion by 2030. Major markets include Japan, the United States, and Europe, while emerging economies like India and China are accelerating adoption due to the urgent need for better sanitation and sustainable solutions.

Etarn leverages global trends in sustainability and smart sanitation. Its unique technology, alignment with government policies, and ability to generate revenue through carbon credits and fertilizer production position it as an innovative leader in emerging markets.

1. **Unique Technology:** Etarn integrates biotechnology and AI to convert human waste into fertilizer, creating a sustainable and innovative sanitation solution.
2. **Environmental Sustainability:** By producing liquid fertilizer and other byproducts, Etarn reduces water consumption and lowers carbon emissions, contributing to a more sustainable and eco-friendly sanitation system.
3. **Government Support:** Etarn aligns with government policies, ensuring its successful adoption and implementation in emerging markets.

Key insights

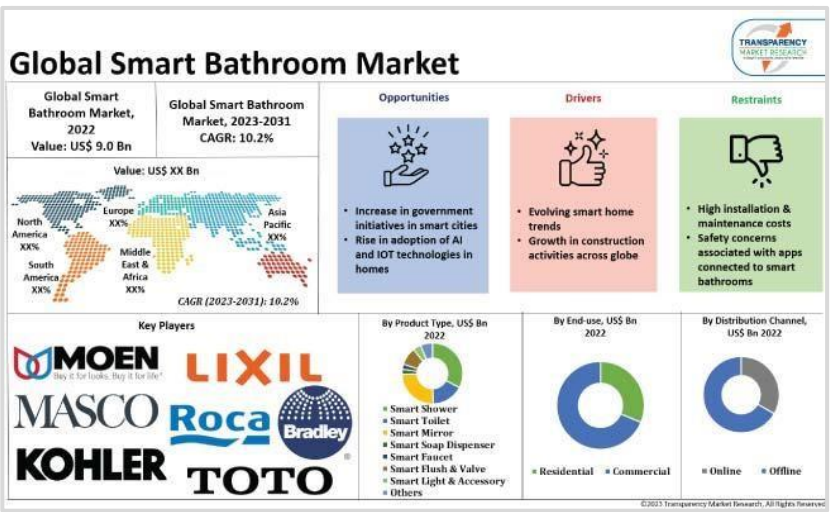


Trend:

Water Conservation
Technologies like Etarn's Smart Toilets, which reduce water consumption, are gaining significant support, especially in water-scarce regions.

Health Monitoring
Smart Toilets with health sensors are becoming a key trend in developed markets and healthcare facilities, enabling real-time health tracking.

Integration with Smart Homes
In developed countries, toilets are increasingly being integrated into smart home systems, enhancing convenience and efficiency.



Opportunities:

Expansion in Emerging Markets
India's sanitation crisis presents a major opportunity for Etarn, as the lack of sanitation infrastructure can be effectively addressed through its solutions.

Monetization of Carbon Credits
Etarn generates carbon credits through its system, which can be sold to create an additional revenue stream.

Government Partnerships
Initiatives such as India's Swachh Bharat and China's Toilet Revolution provide subsidies and support for the installation of Smart Toilets, facilitating broader adoption.

Reference : https://www.grandviewresearch.com/industry-analysis/smart-toilet-market

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Etarn Market Dominance: AI Applications in Excrement Management

The integration of artificial intelligence (AI) in waste management is growing rapidly, with a projected CAGR of ~25-30% over the next 10 years. This growth is driven by the need to optimize resources, reduce operating costs, and minimize environmental impact. While AI-powered Smart Toilets are still in their early stages, they are expected to see significant adoption in urban areas and areas where sustainability is a priority.

By combining this technology with real-time data collection and analysis, Etarn will position itself as a leader in a rapidly expanding market, capitalizing on sustainability trends and growing demand in high-density urban areas.

Predictive maintenance: Etarn uses AI to predict maintenance needs before problems occur, reducing downtime and costs.

Real-time optimization: AI enables resource optimization, maximizing operational efficiency and reducing waste.

Key insights





Trend:

Predictive analytics: AI allows Smart Toilets to monitor performance in real-time, predict breakdowns before they occur, and optimize maintenance.

Resource optimization: AI algorithms can help reduce water and energy usage.

Health monitoring: Smart Toilets can detect health problems early by integrating sensors that analyze excrement. AI interprets this data and makes an immediate diagnosis.

Chance:

Expanded healthcare: Hospitals and clinics can benefit from improved hygiene and enabling early detection of diseases through integrated health monitoring of Smart Toilets.

Data collection and analysis: Smart Toilets generate valuable data on usage patterns and resource consumption, enabling governments and businesses to make more informed and sustainable decisions.

Reference : https://www.linkedin.com/pulse/what-ai-impact-waste-management-hamed-aghayan

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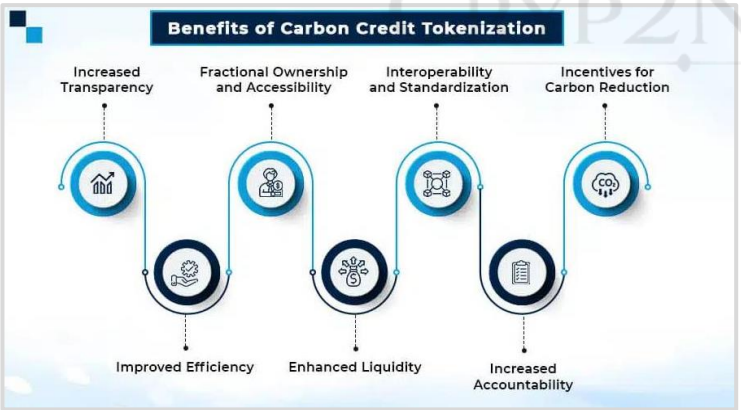
Etarn Market Advantage: Carbon Credits in Waste Treatment

The global carbon credits market is witnessing explosive growth due to international commitments to reduce greenhouse gas emissions. **The market is expected to grow by 3000% by 2029, owing to the Paris Agreement targets and increasing pressure on companies to offset their emissions.** Carbon credits, which convert these credits into tradable digital tokens on the blockchain, are gaining popularity for their transparency and efficiency.

Etarn is well-positioned to respond to the rapid growth of the carbon credit market. Approximately by 2026, carbon credits will be certified and sold to businesses and users. Innovative approaches to converting waste into fertilizer and generating carbon credits not only improve waste management and reduce emissions, but also generate valuable revenue streams.

Innovation	Etarn is creating a unique solution in the market by combining biotechnology that converts excrement into fertilizer and earns carbon credits in the future.
Monetization of excrement	By converting excrement into tradable carbon credits, Etarn contributes to environmental sustainability, while also securing new revenue streams and incentivizing adoption in emerging markets.
Revenue Potential	According to the forecast, Etarn will be able to benefit greatly from the growth of the carbon credit market, and Smart Toilets systems will be able to operate autonomously through the generation and trading of carbon credits.

Key insights



Trend:

Reduced emissions: Smart Toilets provided by Etarn contribute to the reduction of greenhouse gas emissions by efficiently disposing of excrement.

Development of decentralized platforms: Decentralized carbon credit trading platforms are on the rise, enabling fast and secure cross-border transactions.

Chance:

Expanding market: The carbon credit market is projected to grow at an annual growth rate of 30%, providing Etarn with a significant opportunity to increase its market share.

Transparency and security: By using blockchain to manage carbon credits, each credit is tied to an actual verified emission reduction, increasing investor and business confidence.

Reference : https://www.antiersolutions.com/the-power-of-carbon-credit-tokenization-paving-the-way-for-a-sustainable-future/

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Comparative analysis with current competitors

By integrating AI, IoT, and blockchain to provide a unique decentralized "Toilet to Earn" economy, Etarn positions itself as a high-tech leader in smart hygiene.

Unlike its competitors, which focus on basic waste disposal, Etarn generates multiple revenue streams through carbon credits, data monetization, and conversion into beneficial by-products.

Key Differentiators of Etarn

Comprehensive revenue streams: Etarn generates revenue by providing multiple revenue streams, including Smart Toilets sales, liquid fertilizer, advertising, carbon credits, and transaction fees.

Technological leadership: Etarn stands out for leveraging AI, IoT, and blockchain, providing high-tech and sustainable solutions, unlike competitors with poor blockchain integration.

Ease of expansion and global influence: Success in China and plans in India show how easy it is to expand. On the other hand, other competitors are limited to regional and niche markets.

Below is a comparison table comparing Etarn with competitors in the Smart Toilets industry.

point of view	Etarn	Competitors
Market Focus	Advanced Smart Toilets with global impact through AI, blockchain integration, and carbon credits	Portable toilets, modular public toilets, excrement power generation models
Target customers	Urban and rural markets, government partnerships, NGOs, private companies	Municipalities, rural areas, and low-income areas
Business Model	A circular economy that creates economic, social and environmental value	Bio-toilet sales, maintenance contracts, modular systems
Revenue Streams	**1. Sale of toilets** **2. Commercialization of excrement (liquid fertilizer)** **3. Advertising** **4. Carbon Credits** **5. Etarn Transaction Fees** **6. Token Buyback**	Toilet sales, carbon credits, maintenance services, public infrastructure
Innovative Technology	AI-driven waste management, blockchain and ETAN tokens for security, IoT sensors for real-time data	Basic resource optimization by AI, excrement power generation system, no blockchain
Our Approach to Sustainability	Closed-loop systems: conversion of waste into fertilizer, generation of carbon credits, optimization of resources	Emphasis on sanitation, production and circular economy
Global Reach	Leveraging the success stories in China, the company is focusing on expanding into India. It is also possible to expand into global markets.	Primarily regional, limited to domestic markets or certain developing regions
Technological superiority	Advanced AI, IoT, Blockchain, and Decentralized Reward Systems	Strengths in resource optimization, but lack of blockchain
Differentiation in the market	Combining AI, IoT, blockchain, and a decentralized "toilet to earn" economy to create a comprehensive solution	Modular systems or solutions, with an emphasis on individual sustainability goals

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Toilet Economy Mechanism

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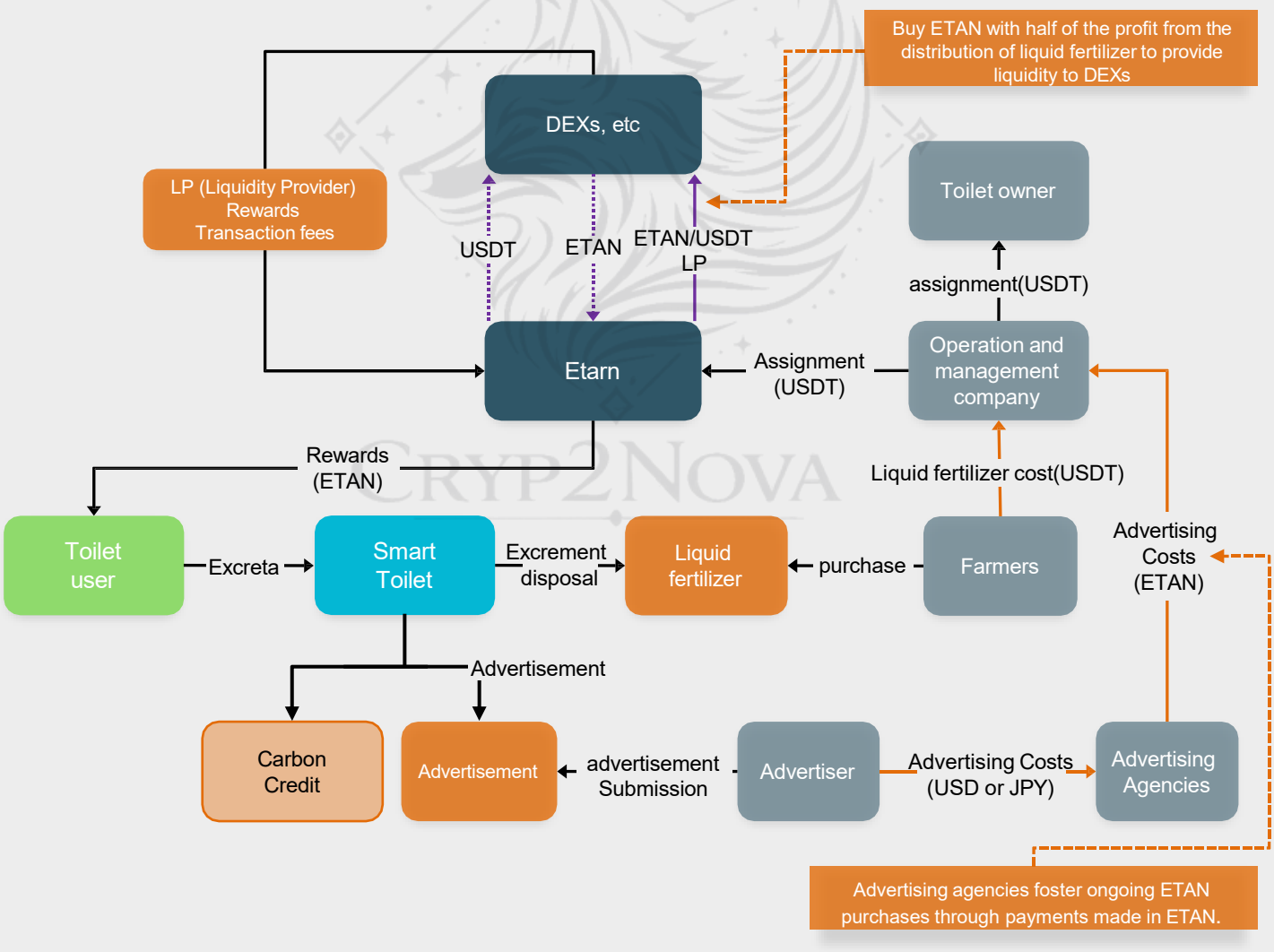
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Toilet Economic Mechanism: It is based on a sustainable and scalable approach that combines strong economic incentives for users with advanced technologies (AI, blockchain).

Etarn's toilet economic mechanism will **build a sustainable "circular ecosystem"** by repurchasing ETAN tokens and providing liquidity with the revenue generated by Smart Toilets, such as liquid fertilizer, carbon credits, advertising, and transaction fees, and rewarding users with ETAN tokens.

By securely and automating transactions, Etarn enables a self-sustaining and transparent model while maintaining operational efficiency through blockchain, ensuring both environmental impact and economic benefits to users.

Circular Ecosystem



Orange is a source of revenue (carbon credits are future revenue sources)

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Toilet Economic Mechanism: How Will It Drive the Growth of Smart Toilets and ETAN Tokens?

Reward Distribution Mechanism

Toilet to Earn: Users are rewarded with ETAN tokens when they use Smart Toilets.
Advantages: Users are incentivized for correct use of toilets and can exchange ETAN tokens for goods and services.

Additional incentives: Additional rewards may be given to users who contribute to operations, such as reporting problems or complying with maintenance procedures.
Advantages: Promotes proper management of the toilet and reduces maintenance costs.

Data collection and excrement disposal

AI-Powered Sorting and Processing: Etarn's Smart Toilets use artificial intelligence (AI) to automatically sort and process excrement. Pathogenic bacteria are detoxified, and excrement is converted into liquid fertilizer.
Advantages: Reduced pollution and creation of valuable resources from excrement.

Carbon credits: The amount of greenhouse gas reductions is measured and quantified. Based on this, carbon credits are generated that can be sold on the global market.
Benefits: Contribute to efforts to reduce and absorb greenhouse gases and sell to companies and governments that need offsets.

Data logging: All data, from toilet usage to public health indicators, is securely recorded in Etarn.
Benefits: Transparency and security in the collection of important information is ensured.

Token flow and usage

Integration with the local economy: ETAN tokens can be used to purchase goods and services at local shops and businesses. This will facilitate the circulation of tokens within the region and revitalize the local economy.
Example: A local merchant accepts ETAN tokens to pay for food, and the shopkeeper can exchange those tokens for fiat currency or hold them in the hope that they will increase in value in the future.

Installation discounts: Businesses and governments can get discounts on installing Smart Toilets if they hold a certain amount of ETAN tokens.
Advantages: Promote the spread of Smart Toilets and at the same time increase the demand for ETANs in the market.

The ETAN token economy mechanism combines AI and blockchain to incentivize users through waste disposal, multiple revenue streams generated by Smart Toilets, and a system of ETAN token rewards. Etarn ensures safe transactions, and ETAN tokens are traded on decentralized exchanges (DEXs) and major centralized exchanges (CEXs).

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ETAN Token

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What is an ETAN token? ETAN tokens are designed to encourage utilization, facilitate carbon credit trading, and support the growth of a sustainable ecosystem.

It is the native digital asset of Etarn, which enables the trading of carbon credits and promotes the use of Smart Toilets through a reward system. It is also a blockchain system that supports the Etarn ecosystem, which provides advanced hygiene solutions.

The ETAN token is at the core of the Etarn ecosystem and is designed to facilitate the efficient, transparent, and secure exchange of credit, incentivize user participation, and promote the long-term growth of the platform. The token will be consistently integrated with the platform's circular economy model to support both sustainability and profitability.



Token Name: Etarn	Symbol: ETAN	Type: EVM-compatible

What are the benefits of tokens?

Participation by Incentive: By offering rewards in the form of ETAN tokens, we encourage users to participate in Etarn's Smart Toilets. This token-based reward system encourages user participation and boosts adoption in the local community.

Efficient Transactions: ETAN tokens enable cost-effective, fast and secure transactions within the Etarn ecosystem. Whether it's exchanging carbon credits, trading products like liquid fertilizer, or paying for services, ETAN tokens ensure smooth operations.

Sustainability and Growth: The ETAN token supports the growth and expansion of Etarn by strategically allocating the token to ecosystem development, partnerships, and incentives, ensuring the success of the platform in the short and long term.

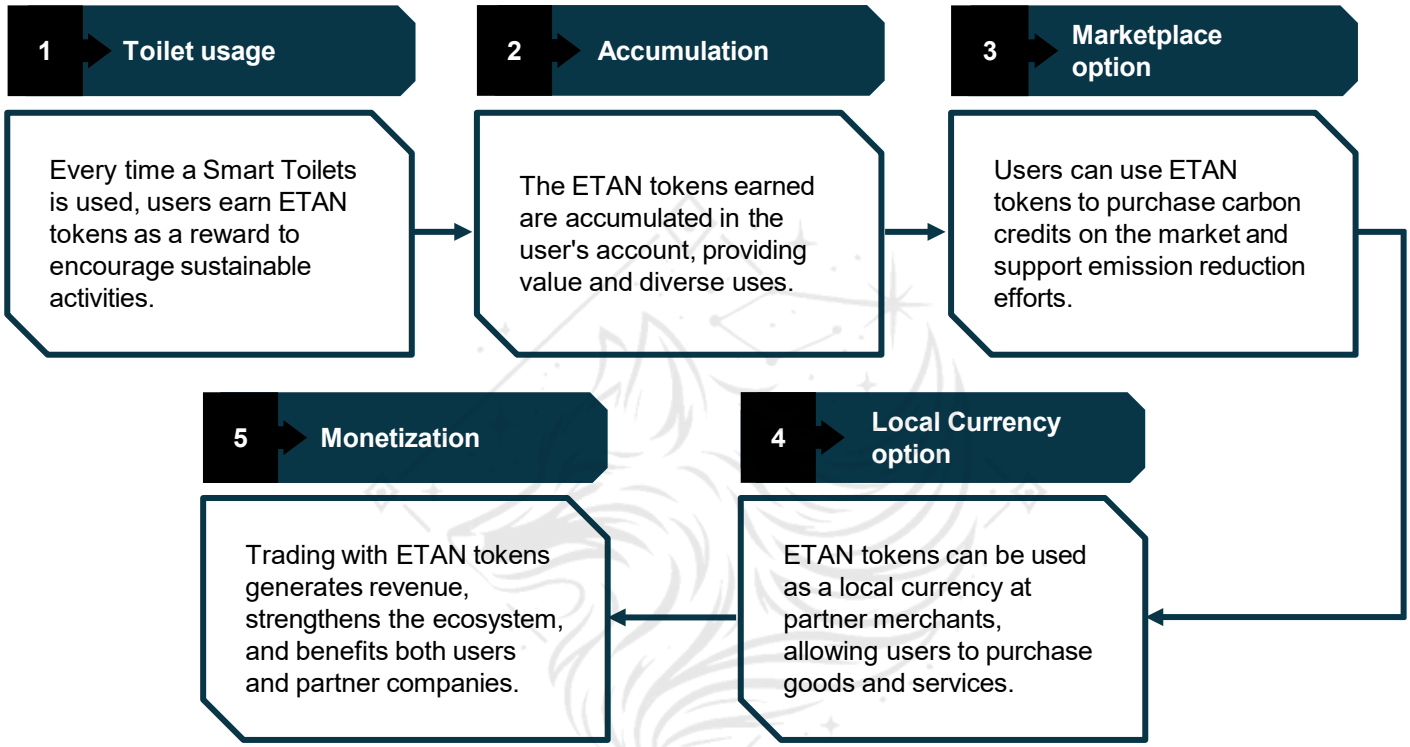
Transparency and trust: Built on the blockchain, ETAN tokens provide a fair system for reward distribution and carbon credit monitoring. Its decentralized governance ensures that all stakeholders have a say in important decisions, strengthening trust and transparency across the ecosystem.

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How does the ETAN token work?

Through this process, ETAN tokens can promote sustainable practices by rewarding the use of Smart Toilets and provide users with flexible options to purchase carbon credits or serve as community currency. Strengthen your ecosystem and support environmental goals and community participation.



ETAN Token Utility

The ETAN token is at the core of the Etarn ecosystem, connecting carbon credit trading, profit sharing, corporate incentives, and community governance. Its design ensures that deployment is sustainable and easy to scale, creating significant value for both local communities and international investors.

	Explanation	Usage examples	Advantage
1 Transaction fees	Transaction fees are required to process transactions on Etarn. Every time a transaction is made within the ecosystem, users have to pay these fees.	Users transfer ETAN tokens to partner stores to purchase them and pay a small fee as a transaction cost.	Ensure the security and functionality of the network and earn a sustainable income through commissions.

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ETAN Token Utility

Etarn

2 Carbon credit

Explanation	Usage examples	Advantage
The carbon credits generated by the Etarn Smart Toilets will be approved and certified after 2026. After that, it will be able to be traded on the carbon credit market.	International companies use ETANs as a medium of exchange to purchase carbon credits to offset emissions.	It facilitates the trading of carbon credits, contributing to environmental sustainability and generating new revenue streams.

3 Toilets to get perks

Explanation	Usage examples	Advantage
Users earn ETAN tokens as a reward for using Smart Toilets and providing data on excrement, usage, and hygiene.	Rural residents will use Smart Toilets and receive ETAN token rewards.	It promotes the mass adoption of technology, especially in rural areas, and improves public health by generating valuable data.

4 Enterprise incentive

Explanation	Usage examples	Advantage
Businesses looking to install or maintain Etarn Smart Toilets can receive discounts and additional services by depositing ETAN tokens as part of their payment.	A tourist resort in India installs Smart Toilets and receives a discount on maintenance by paying part with ETAN tokens.	Accelerate technology adoption among large enterprises and institutional investors, and generate more loyalty.

5 Local Currency

Explanation	Usage examples	Advantage
ETAN tokens can be used as currency by shops and businesses related to the Etarn ecosystem, and users can purchase goods and services directly with the tokens.	Rural farmers use ETAN tokens to purchase supplies from local shops that are part of the ETAN ecosystem.	Revitalize local economies and provide rural areas with access to the digital economy.

6 Participation in Governance

Explanation	Usage examples	Advantage
ETAN token holders will be able to vote on important decisions within the ecosystem, such as proposing new projects, upgrading platforms, and expanding regions.	ETAN users can participate in a poll to prioritize which regions to deploy Smart Toilets in as they expand to new regions.	Promote community participation and ensure that the development of the ecosystem is aligned with the interests of users.

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	Explanation	Usage examples	Advantage
7 Distribution of benefits	ETAN token holders may indirectly receive profits arising from the operation of Smart Toilets and the sale of by-products such as liquid fertilizer.	From the profits generated by the toilets, we will implement staking rewards that can be received by depositing ETAN tokens for a certain period of time.	By returning the profits of the ecosystem, it encourages the active participation of investors and token holders.

Token Rewards & Monetization

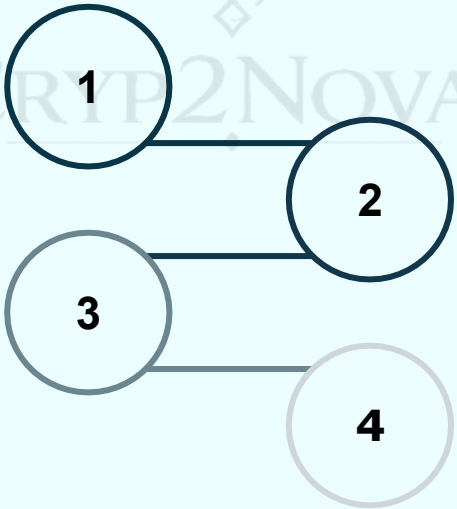
The ETAN token underpins a blockchain-powered mechanism to reward users for taking eco-friendly actions. Revenue comes from liquid fertilizers, carbon credits, advertising, vending services, and more. Staking increases engagement, while token buybacks maintain the value of the token. Donations help fund new toilets and promote social impact.

ETAN tokens drive everything: With the blockchain, you can track every interaction, whether it's using a Smart Toilets, generating carbon credits, or producing liquid fertilizer, and automatically reward them with ETAN tokens.

That means there's a payoff every time someone participates.

Etarn Rewards and Monetization Models

Users earn tokens by using toilets. **Think of it like a game: the more environmentally friendly actions you take, the more you earn.**



Leaderboards and rewards: Build a system that allows you to see how you rank compared to other users. Top users will be rewarded with a badge (which can also be an NFT) to earn status within the community to honor their achievements.

Staking for rewards: Users can choose to stake their tokens (similar to a fixed deposit where they deposit) to earn more tokens over time. The longer the staking period, the higher the rewards.

Donations with status: You can implement a feature that allows individuals and businesses to donate ETAN tokens for charitable causes such as installing Smart Toilets in disadvantaged areas. This will not only improve your status, but also have a positive impact on society.

In short, we are transforming our mundane everyday behavior (using the toilet) into an exciting, game-like experience. **This is so that even an individual can feel a sense of fulfillment that they are contributing to something big.**

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Monetization through smart contracts: Create real value through blockchain and smart contracts.

Monetization through smart contracts ensures an automated and transparent revenue stream while maximizing value through liquid fertilizer, carbon credits, advertising, microtransactions, staking, and token management.

Liquid fertilizers produced by treating excrement have a higher asset value than carbon credits.



Revenue comes from the sale of liquid fertilizers and carbon credits. Liquid fertilizers provide revenue from the start, and carbon credits are an important and significant additional revenue stream after certification.

Monetization Strategies



Liquid fertilizer

Excrement is recycled into liquid fertilizer with high market value and asset value, providing a sustainable agricultural resource.



Carbon Credits

Carbon credits are generated by reducing greenhouse gas emissions such as CO2 during the process of waste conversion and can be traded on the global market after 2026 with certification for revenue.



Advertising

The advertising screen displays ads paid for with ETAN tokens. Smart contracts automate revenue sharing, ensure fair distribution between owners and operators, and streamline processes through blockchain.

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Small payments through vending machines and sharing services

Users can use ETAN tokens to purchase products from vending machines and rent services such as umbrellas and chargers around toilets. Smart contracts process payments instantly, ensuring accurate revenue sharing between participants.



Staking & Governance

Users can lock their ETAN tokens in a staking pool to earn high returns over the long term. Token holders can also participate in governance through voting on system updates and new toilet installations, fostering long-term engagement.



Increasing the value of tokens through buybacks and incinerations

One way to preserve the token's value is to use a portion of the proceeds from carbon credits and fertilizer sales to buy ETAN tokens back from the market. These tokens will be incinerated, and reducing the supply will increase the value of the remaining tokens in the long term.

Key takeaways about ETAN tokens

01

Etarn's Platform Exchange:
Etarn offers a dedicated exchange where you can buy, sell, and exchange ETAN tokens, providing flexibility and value within a secure ecosystem.

02

Use of ETAN tokens in external markets:
If ETAN tokens are accepted as a means of payment, they can be used for transactions in the existing carbon credit market, increasing their utility and market access.

03

Popularization of ETANs as a Settlement Currency:
The certified carbon credits generated from Etarn toilets add to the value of the project. ETAN tokens, on the other hand, facilitate transactions across multiple platforms and provide convenience as a settlement currency that is accepted by many counterparties.

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Rewards and monetization system

Step 1: Turn your toilet into an ecosystem

This special Smart Toilets can turn excrement into liquid fertilizer and reduce greenhouse gases such as CO2. The system tracks how much excrement has been converted into something beneficial and how much greenhouse gases have been reduced.

How can it help?

Tokens for users
Every time someone uses the restroom, you earn ETAN tokens. It's like a reward for being eco-friendly.



Carbon Credits
When a Smart Toilets applies to a certification body for emission reduction, it is issued a "carbon credit". It quantifies the amount of greenhouse gas emissions reduced or absorbed by environmental activities and makes it possible to trade the credits, which is one of the economic means to achieve carbon neutrality.

Step 2: Make it fun (gamification)

We want people to enjoy using these toilets and be part of a fun system.

That's why we're adding game-like elements.

Earn rewards: When you use the toilet, you accumulate ETAN tokens. If you use the toilet often, you will accumulate more ETAN tokens as you level up in the game.

Leaderboards and badges: See how you rank compared to other users. Top users may be given cool digital badges or additional tokens. It's a reward for contributing to the planet.

Staking: Users can also lock (staking) their tokens to earn more over time. The longer you lock your tokens, the bigger the rewards.

Step 3: How the system makes money



Monetization Strategy:
The project can be profitable in several ways, all through smart contracts. A smart contract is an automated program that handles everything without the need for an intermediary.

Sale of carbon credits: Carbon credits earned from toilets are sold to companies with high CO2 emissions, and the revenue is automatically distributed among operators.

Vending machines and services: ETAN tokens can be used to buy snacks or rent items from nearby vending machines, and payments are processed immediately with smart contracts.

Advertisements: Advertisements displayed on toilet screens are paid for in ETAN tokens, and profits are distributed between owners and operators through smart contracts.

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Step 4: Maintain the value of the token

In order to preserve the value of the ETAN tokens, the project will take a measure called "buyback and burning".

1. A portion of the proceeds from the sale of carbon credits and fertilizers will be used to buy back ETAN tokens from the market.
2. The tokens are then burned, reducing the total number of available tokens. This increases the value of the remaining tokens.



Step 5: Donation and Impact

Individuals and businesses can also donate ETAN tokens to install Smart Toilets in places where they need them. By making a donation, you'll earn a special badge and be recognized for your contribution to making the world a cleaner and better place.





This ecosystem turns toilet use into environmental protection by turning waste into fertilizer, reducing CO2 emissions, and creating carbon credits. Gamification encourages participation through token rewards, leaderboards, and staking. Revenue is generated from liquid fertilizers, carbon credits, advertising, sales services, etc. Token buyback and incineration strategies maintain the token's value, while donations drive the social impact of funding for new toilets.

To ensure fairness, transparency, and safety, everything is managed on the blockchain.

Every time you use the toilet in this system, you are contributing to the planet, participating in the community, and getting paid.

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Tokenomics

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ETAN Tokenomics: Promote sustainability, growth, and community participation.

ETAN's tokenomics model is designed to promote long-term ecosystem viability and promote sustainability, economic inclusion, and growth. By balancing token allocation across team incentives, ecosystem development, and reward mechanisms, the strategy encourages adoption and innovation while ensuring liquidity.

Our tokenomics strategy is pivotal in terms of balancing immediate liquidity with phased token releases to ensure long-term ecosystem growth and foster stability and user engagement.

Promote economic inclusion through a "Toilet to Earn" model that aligns stakeholder incentives and provides tokens as a reward for sustainable practices. This approach increases scalability and financial sustainability, empowering local residents to use tokens within the local economy.

Objectives

Sustainable growth
The emphasis on long-term rewards ensures alignment with the project's vision for business expansion and success through the gradual release of tokens and reinvestment into the ecosystem.

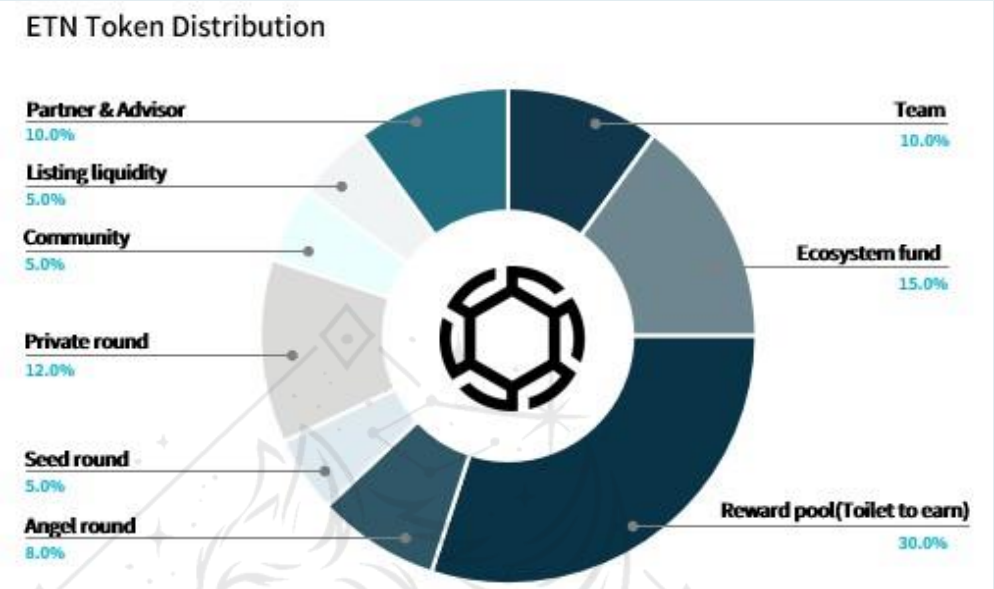
Economic Inclusion
The **"Toilet to Earn"** model incentivizes community participation, allowing both rural and urban users to be rewarded and contribute to the growth of the ecosystem.

Transparency & Stability
Blockchain-based governance ensures that token allocation is fair, transparent, and in line with sustainability goals, and maintains value stability through measures such as token buybacks.

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ETAN token allocation strategy: Promote sustainable growth and active participation of users and investors, and secure resources for development, incentives and long-term liquidity.

30% is allocated to the reward pool used for Toilet to Earn, with an emphasis on user incentives. Ecosystem funds and investors also hold a significant share, ensuring the development and long-term sustainability of the project.



Category	Rate	Objective	Lockup	Release Schedule
Team	10%	Development team incentives and compensation	After listing on CEX: 2 years	After lock-up, the same amount is released every month for 48 months
Ecosystem Fund	15%	Ecosystem Development, Partnerships & Marketing	N/A	Released in response to governance votes, etc.
Reward Pool	30%	Rewards for Toilet to Earn Model Users	0	0% on CEX listing, then the same amount released every month over 96 months
Angel Round	8%	Initial investment for project development	After listing on the CEX: 3 months	10% on the CEX listing, and the remaining 90% will be released in the same amount every month over 8 months after lockup.
Seed Round	5%	Additional investments for early-stage growth	After listing on the CEX: 4 months	5% on the CEX listing, and the remaining 95% will be released in the same amount every month over 9 months after lockup.
Private Round	12%	Private investment to expand the project	After listing on the CEX: 6 months	5% on the CEX listing, and the remaining 95% will be released in the same amount every month for 11 months after lockup.
Community	5%	Community Incentives and Incentives	After listing on the CEX: 6 months	After lock-up, the same amount is released every month for 48 months
Listing Liquidity	5%	Providing trading liquidity on exchanges	N/A	Release as needed to maintain liquidity
Partner & Advisor	10%	Rewarding strategic partners and advisors	After listing on CEX: 2 years	After lock-up, the same amount is released every month for 48 months

※The lock-up period will commence from the day following the CEX listing date.

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Token listing price and vesting: Gradually release tokens to promote long-term stability and sustainable project growth.

Funding Rounds	Token Price (USD)	Amount of funding (USD)	Rate
Angel Round	0.0125	1,000,000	8%
Seed Round	0.0150	750,000	5%
Private Round	0.0200	2,400,000	12%
Total		4,150,000	25%

Listing price

This breakdown reflects the different ETAN token prices at each funding stage (angel, seed, and private). The purpose of these rounds is to raise funds for the development and expansion of the project. The listing price (0.025 USD) is the price at which the token will be listed on the market after completing the funding round.

Vesting

ETAN tokens will be allocated in a cliff and vesting period to ensure a phased release, including 10% each for teams and advisors (24 months of cliffs, 48 months of vesting) and 30% of the reward pool (96 months of vesting) to support the long-term stability of the project.

Token Distribution	Rate	ETAN token	At the time of listing on the CEX	Cliff (Months)	Vesting (Months)
Team	10%	100,000,000	0%	24	48
Ecosystem Fund	15%	150,000,000	N/A	N/A	N/A
Reward Pool	30%	300,000,000	0%	0	96
Angel Round	8%	80,000,000	10%	3	8
Seed Round	5%	50,000,000	5%	4	9
Private Round	12%	120,000,000	5%	6	11
Community	5%	50,000,000	0%	6	48
Listing Liquidity	5%	50,000,000	N/A	N/A	N/A
Partner & Advisor	10%	100,000,000	0%	24	48
Total	**100%**	**1,000,000,000**			

Reward Pool Distribution Mechanism (Update)

The Reward Pool is designed to incentivize real-world participation in the Etarn ecosystem through toilet usage, QR scanning, and Web App engagement. While a total of 300,000,000 ETAN is allocated to the Reward Pool and scheduled over a 96-month period, actual token emissions are usage-based and subject to a monthly hard cap of 3,125,000 ETAN. The number of ETAN distributed in any given month is determined by real-world activity and user participation. If the theoretical reward amount calculated from usage exceeds the monthly cap, emissions are capped at 3,125,000 ETAN and any excess is not issued. This mechanism ensures long-term supply discipline, protects token value, and aligns token issuance with real economic activity within the Etarn ecosystem.

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The main components of tokenomics

ETAN's tokenomics ensure a balance between instant liquidity, long-term incentives, sustainable growth, and transparency.

Liquidity Balance

Tokens are allocated in appropriate proportions, ensuring immediate liquidity while avoiding market volatility through vesting.

long-term Incentive

Gradually release over several years to ensure that key stakeholders (teams, investors, and communities) align with the long-term interests of the ETAN.

Growth & Participation

Significant allocation to compensation pools and community incentives will drive active use of the ecosystem.

Transparency

All token allocation and usage decisions are validated by a blockchain-based governance system to ensure that resources are used fairly and efficiently.

Viability & Expansion

The Etarn ecosystem will be sustainable and easy to scale with efficient infrastructure, diverse revenue streams, and buyback mechanisms that increase the value of the tokens powered by an EVM-compatible blockchain.



Ecosystem extensibility

Built on an EVM-compatible blockchain, the system offers fast and low-cost transactions. This allows many users to access the ecosystem, especially in densely populated regions like India.



Diverse Sources of Income

Secure multiple revenue streams (toilet sales, liquid fertilizer, carbon credits, advertising, transaction fees).



Token Buyback Mechanism

Etarn will use a portion of the proceeds to buy back tokens in the market, reducing supply as the ecosystem grows, ensuring that the token's value increases.

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Sustainability

The ETAN token supports the authentication and approval of carbon credits through international environmental organizations. For example, there are Verified Carbon Standards (VCS) and Gold Standards (GS), which ensure that these credits meet stringent environmental standards. These credits are issued as a result of voluntary greenhouse gas reduction efforts by companies and individuals and are traded primarily in voluntary carbon markets.

Environmental impact

Carbon credits not only provide a revenue stream, but also contribute to global emissions reductions and align efforts with global sustainability goals.

Economic Inclusion

The Toilet to Earn system encourages rural and urban communities to participate in the digital economy, providing additional income and promoting economic inclusion.

Economic growth and stability

Etarn promotes economic growth and stability through diverse revenue sources (e.g., toilets, liquid fertilizer, advertising, carbon credits, etc.) and ensures financial sustainability while token buybacks maintain token value. The growth of the community will further expand the ecosystem and attract more users and investors.

Diverse Sources of Income

Etarn earns income from the sale of toilets, liquid fertilizer, advertising, and carbon credits.

Benefits: Brings financial sustainability and economic growth through multiple revenue streams.

Token buyback and burning

A portion of the proceeds generated will be used to buy back ETAN tokens in the market, reducing the circulating supply and supporting the value of the tokens.

Advantages: The value of the token is stabilized, and long-term rewards are provided to holders.

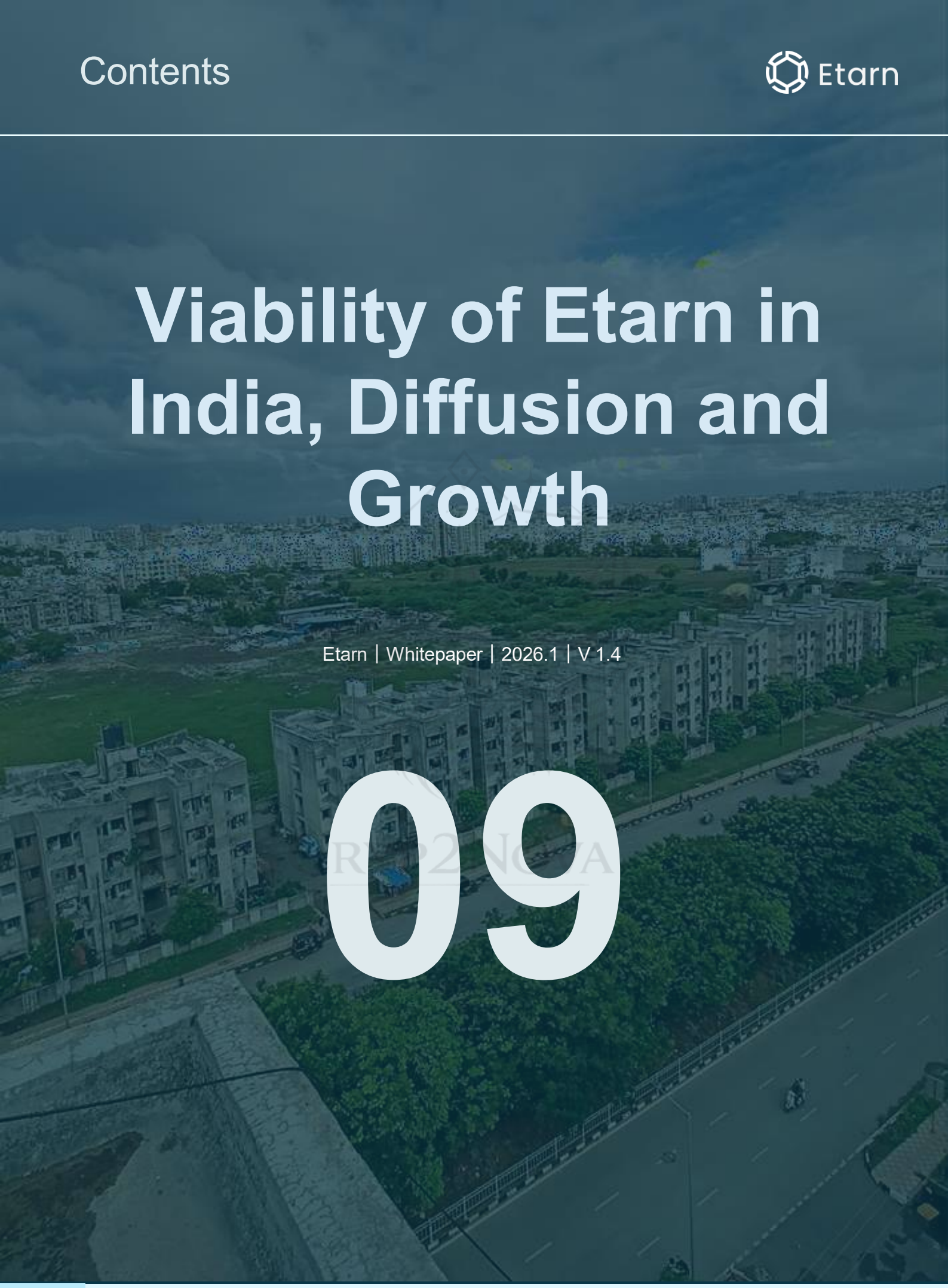
Growing the community

The more people use the restroom, the more tokens will be distributed, which will create a growth cycle that will attract new businesses and users to the ecosystem.

Advantages: We have a constantly expanding ecosystem that attracts both users and investors.

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Viability of Etarn in India, Diffusion and Growth

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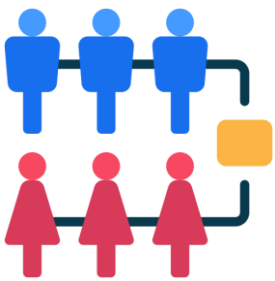
How does it contribute to the health and economic well-being of children and rural people in India?

Etarn provides children and low-income households with easy access to smart hygiene and health services that do not require mobile devices. With token rewards and regional partnerships, we reduce healthcare costs and promote well-being through comprehensive community programs.

Through user-friendly accounts, token rewards, and community partnerships, Etarn will ensure that children and low-income households have access to sanitation, health monitoring, and essential services.

Easy-to-use account system for kids

Simplified account management: Parents and guardians can create linked family accounts that can be easily tracked across multiple family members and access benefits.



Reducing income inequality with access and sanitation

Affordable Healthcare Through Rewards: Etarn's reward system encourages toilet use and health monitoring by offering ETAN tokens. These tokens can be exchanged for essential items at local stores or for healthcare discounts, helping reduce the financial burden on low-income households.

Data-driven public health initiatives: Health data collected through Smart Toilets enables early detection of potential health problems and helps governments and NGOs allocate resources more effectively to vulnerable communities.

Economic Community Empowerment: Etarn promotes financial inclusion by fostering local partnerships with stores and healthcare facilities that accept ETAN tokens, enabling the poorest communities to benefit from sanitation services and healthcare access.

Breaking the cycle of poor health and rising costs

Preventative health monitoring: Regular use of the toilet can help prevent costly medical bills by allowing you to monitor your health and detect it early.





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Adoption and certification of carbon credits

How does Etarn plan to demonstrate the scalability and reliability of AI and blockchain technology in different regions, especially in developing markets like India?	By implementing this model in both urban and rural areas of India, Etarn demonstrates the scalability and reliability of its technology and demonstrates measurable environmental and economic impacts. In addition, we will leverage similar technologies that have been successful in China and adopt an incentive-based system (Toilet to Earn) to ensure continued adoption.
What specific market education initiatives will Etarn undertake to help potential users and stakeholders understand the benefits of Smart Toilets systems and carbon credit generation?	Etarn will carry out an awareness campaign involving local governments, businesses and NGOs to highlight the creation of carbon credits and how Smart Toilets can improve sanitation and generate income.
What steps does Etarn take to obtain carbon credit certification?	Carbon credit certification by converting toilet waste into liquid fertilizer and capturing, reducing, and absorbing greenhouse gases in the process is the world's first new methodology. We work with experienced consulting firms to obtain carbon credit certification through the Verified Carbon Standard (VCS) and Gold Standard (GS), which are known for certifying agriculture and waste management projects.

Regulatory and Legal Challenges

How will Etarn cope with the changing regulatory landscape of blockchain and crypto assets in India?	Etarn will continue to work closely with government agencies to comply with India's blockchain and crypto regulations to ensure that regulations are flexible and responsive to regulatory changes.

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Cultural and social barriers

What strategies does Etarn have to overcome deep-rooted cultural practices around hygiene and promote the use of Smart Toilets?	Etarn will use economic incentives (ETAN tokens) to encourage the use of Smart Toilets and reduce cultural resistance. The design prioritizes comfort and privacy, making it easy to deploy.
How does Etarn address skepticism and concerns about turning excrement into income, especially in traditional communities?	By showcasing success stories and developing educational campaigns, Etarn demonstrates the economic and environmental benefits of recycling waste and addresses skepticism.

Logistics and infrastructure challenges

How does Etarn plan to manage the costs of installation, maintenance and logistics, especially in remote or underserved areas?	Etarn uses solar energy, decentralization (DePIN), and automated data collection to minimize installation and maintenance costs and facilitate remote monitoring. Smart Toilets produce liquid fertilizer and carbon credits, generating revenue while saving water and electricity, eliminating the need for traditional sewage infrastructure.
What scalable measures have been put in place to help Etarn achieve its innovative goals for sanitation installations and new revenue streams?	This model is highly scalable thanks to decentralized technologies and carbon credits, making it feasible even in areas with limited infrastructure. Container-based Smart Toilet systems are easy to transport and install, and operate while conserving water and energy, without the need for sewage systems.

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Market Competition

What makes Etarn's Smart Toilets system and blockchain platform unique compared to other technologies and competitors in the market?

Projects like the Reinvent the Toilet Challenge aim to reduce costs as a charity, while investing in Etarn provides a return, promotes adoption, protects hygiene and human rights, and drives sustainable social impact. By integrating AI, IoT, and blockchain, Etarn will stand out by building a decentralized economy model based on incentives, unlike competitors who focus solely on traditional hygiene solutions.

Long-Term Sustainability and Political Stability

How does Etarn plan to mitigate the risks associated with political instability and regulatory changes in emerging economies like India?

Etarn mitigates these risks by adapting to local regulations and working with governments to ensure smooth implementation, as demonstrated in China. Etarn will pursue the implementation of local and global tax incentives for companies that purchase carbon credits to provide added value and increase demand in the carbon market.

What measures does Etarn take to ensure the long-term sustainability and profitability of its revenue model, particularly against external market forces such as fluctuations in fertilizer prices and demand for carbon credits?

Etarn will continue to diversify its revenue streams and leverage advanced technologies such as blockchain and AI to ensure long-term sustainability.

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Roadmap

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Overview

Since its launch in Q4 2024, Etarn has steadily progressed the development of smart sanitation infrastructure, the formation of strategic partnerships, and the establishment of a token-driven economic ecosystem.
This section summarizes the key achievements from Q4 2024 through Q4 2025, highlighting Etarn's execution capability, operational progress, and readiness for the next phase of expansion.

Achievements Timeline



Q4 2024
Project Initiation

Released the Etarn whitepaper and launched the official website.
Formally initiated the project with a clear focus on sustainable sanitation and decentralized infrastructure.
Established critical early partnerships, particularly in preparation for future deployment in India.

Q1Q2 2025
Development and Marketing

Began development of the ETAN token reward application for smart toilet users.
Designed the initial token transfer and reward distribution mechanisms forming the foundation of the circular ecosystem.
Launched official communication channels on X (formerly Twitter) and Telegram, initiating global community-building efforts.
Successfully completed initial fundraising rounds to support product development and operations.

Q3 2025
Token Launch and Early Ecosystem Activation

Deployed the ETAN token on the mainnet and initiated on-chain operations.
Listed on multiple centralized exchanges (CEXs) and decentralized exchanges (DEX), enabling market trading.
Introduced Telegram Mini App as the initial implementation of the "Toilet-to-Earn" model, and began phased distribution of ETAN tokens.
Started collecting early-stage operational and usage data, including data generated through the Telegram Mini App, to support future AI enhancement.

Q4 2025
Initial Physical Installation and Strategic Partnerships

Conducted initial installation of smart toilets in Japan and began preparation for real-world operational verification.
Initiated a strategic partnership with IBC Group to support global expansion and community growth.

Positioning at the End of 2025

By the end of 2025, Etarn had successfully transitioned from a development-focused phase to early-stage real-world deployment and ecosystem activation.
With on-chain infrastructure live, initial physical installations completed, and strategic partners in place, the project entered 2026 with a solid foundation for scalable deployment, ecosystem expansion, and environmental impact creation.

Note on Structure

This Achievements Summary is positioned within the Roadmap section to represent Etarn's past progress. Planned initiatives from Q1 2026 onward are detailed separately in the Roadmap Update section.

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Etarn Implementation Plan: Phases and Key Actions

Q1 2026: Japan Pilot Expansion and Validation

- **Pilot Integration:** Integrate the ETAN token system into smart toilet deployments in Japan and conduct pilot validation in real-world environments.
- **Ecosystem Testing:** Validate the “Toilet-to-Earn” reward flow by combining physical smart toilet usage with on-chain token distribution.
- **Web Application (Initial):** Introduce an initial web application to support ETAN integration and pilot validation.
- **Operational Refinement:** Refine workflows, user experience, and system stability based on pilot feedback.
- **Preparation for India Deployment:** Finalize technical and operational readiness for deployment in India.
  Note: Pilot validation in Japan may extend into early Q2 to ensure operational reliability.

Q2 2026: India Pilot Deployment (Uttar Pradesh)

- **Pilot Deployment:** Install smart toilets in selected regions within Uttar Pradesh (UP), India, and initiate local proof-of-concept (PoC) trials.
- **Local Validation:** Validate sanitation performance, operations, and user engagement in the Indian context.
- **Data Collection:** Collect initial operational and usage data to support optimization and future carbon credit methodology development.
- **Local Partnerships:** Strengthen collaboration with local partners to support pilot operations and logistics.

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Q3 2026: Scaled Deployment in Uttar Pradesh

- **Scaled Installation:** Begin phased, large-scale installation of smart toilets across multiple regions in Uttar Pradesh (UP), India.
- **Ecosystem Activation:** Expand the “Toilet-to-Earn” model through increased participation and on-chain activity.
- **Operational Scaling:** Optimize maintenance, monitoring, and data flows to support higher deployment volume.
- **Impact Measurement:** Start structured measurement of sanitation impact and operational performance at scale.

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Q4 2026: Stabilization and Foundation Building

- **Operational Stabilization:** Stabilize large-scale operations in India with a focus on reliability, cost efficiency, and sustainability.
- **Ecosystem Maturity:** Deepen the local toilet economy via stronger partner integration and improved user incentives.
- **Impact Reporting:** Consolidate operational and impact data to prepare internal and external reporting.
- **Foundation for Future Expansion:** Establish a solid operational and data foundation to support global expansion planned from 2027 onward.

Positioning Note:

- In 2026, Etarn focuses on initial deployment, validation, and ecosystem establishment in India (Uttar Pradesh).
- Global expansion beyond India is planned for 2027 and beyond, following operational stabilization and impact creation.

From 2026 onward: If the methodology for generating carbon credits from human waste processing is approved, it will be the first of its kind in the world.

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1. **2025:** Application Preparation
2. **2026:** Preparation and submission of the application form

Application Steps:

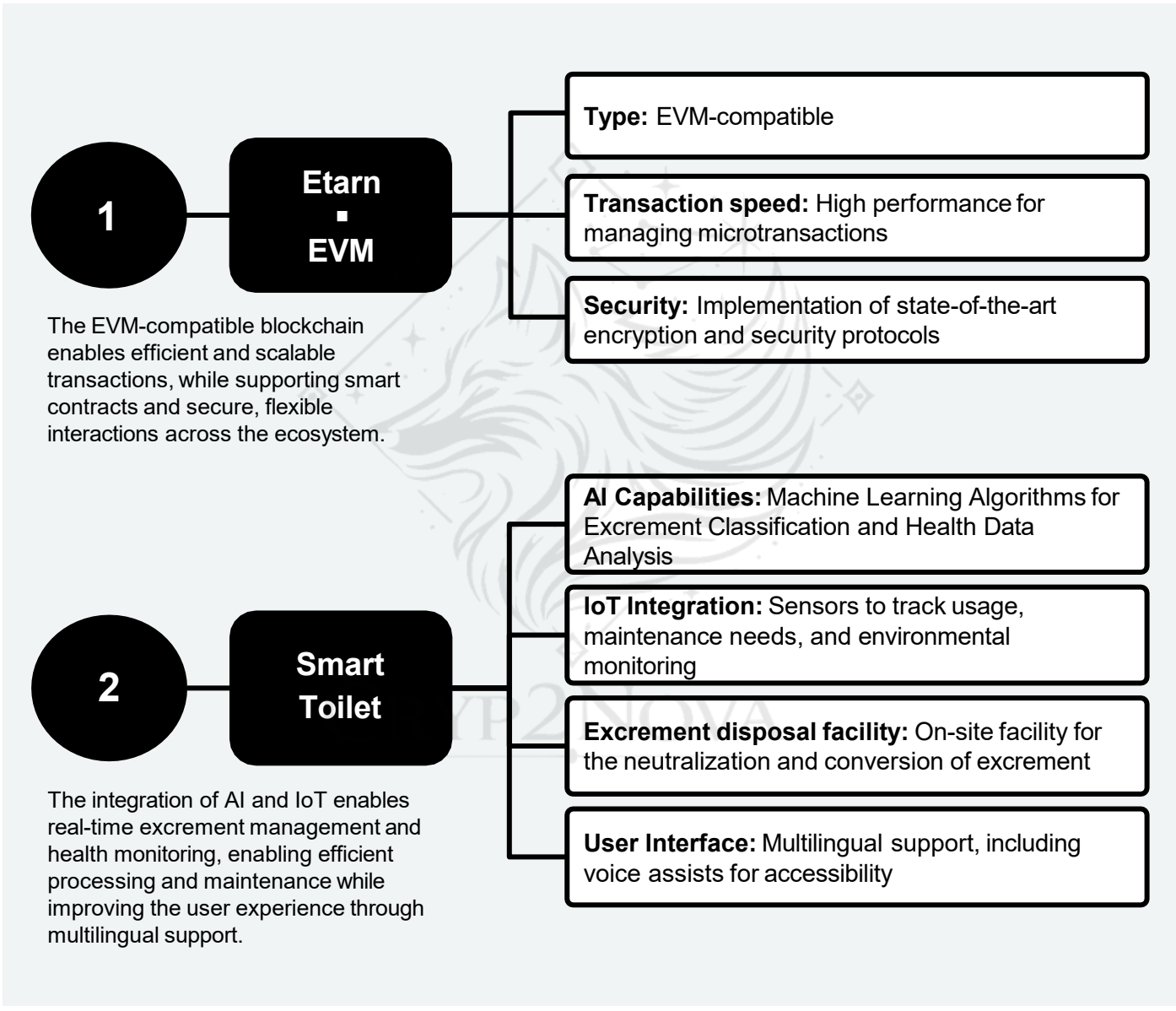
- **Third-Party Assessment:** Includes tripartite review, technical verification, on-site survey, and estimation of emission reductions.
- **Public Feedback:** Methodological documents are published for external comments.
- **Final Review:** Comprehensive evaluation of the methodology.
- **Approval:** The methodology is officially approved and registered in the database.
- **Project Registration:** Formal registration that enables the issuance of carbon credits based on verified emission reductions.

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Implementation of Etarn: technical specifications for development

The integration of AI and IoT in Smart Toilets enables advanced health data analytics and automated maintenance controls, making operations more sustainable. In addition, the multilingual user interface ensures that it can be used appropriately by a wide range of users.



By providing a comprehensive and detailed proposal, we aim to show the full potential of Etarn to tackle the most pressing environmental and sanitation challenges of our time. Through innovation, collaboration, and a commitment to sustainability, Etarn is poised to make a lasting and positive impact on communities around the world.

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Seven points of the project: Etarn aims to turn a critical public health problem into an opportunity for environmental protection and economic development.

By integrating artificial intelligence, blockchain, and innovative waste management technologies, we provide comprehensive solutions that benefit people, communities, and the planet. The "toilet economy" not only addresses immediate hygiene needs, but also empowers users economically, promotes environmental sustainability, and fosters a sense of ownership and community participation.

Our key elements are as follows:

- **Self-sustaining sanitation:** The system is self-sustaining, conserving water and electricity, and does not require sewage infrastructure.
- **Comprehensive Solutions for Sanitation:** Etarn combines advanced artificial intelligence (AI), blockchain, and IoT technologies to transform sanitation in areas with high health crises like India by turning excrement into valuable products.
- **Circular economy:** The project follows a circular economy model, which converts human waste into liquid fertilizer, generating sustainable income and promoting environmental sustainability.
- **Carbon credit income:** When CO_2 emissions are reduced through waste treatment, carbon credits can be generated under approved methodologies. These credits underpin the ETAN token system, reward toilet users, distribute profits to toilet holders, and enable participation in the global carbon market.
- **Toilet to Earn reward system:** Users can receive ETAN tokens by using Smart Toilets.
- **Autonomous decentralized technology:** Smart Toilets are managed by a decentralized network (DePIN) to ensure efficient monitoring and smooth operation.
- **Monetization and scalability:** Etarn not only solves sanitation problems, but also generates multiple revenue streams (liquid fertilizer, advertising, carbon credits, etc.) and fosters the local economy through the circulation of ETAN tokens.

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Etarn not only improves public health through its innovative and sustainable sanitation solutions but also fosters economic growth.

By addressing India's most pressing infrastructure gaps, this project reduces carbon emissions while creating income opportunities for marginalized communities.

It's time for investors, governments, and NGOs to contribute to this mission.
Join Etarn's vision to revolutionize sanitation, drive India's economic growth, improve the lives of hundreds of millions, and promote sustainability.

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