Unleash Blockchain Power
inside Every Product

NATIVE DIGITAL

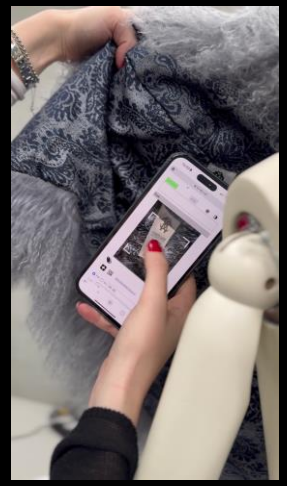
Enhancement of the Historical Archive

Neural 3D Reconstruction

- Unparalleled Detail Capture: Uses advanced neural technology to meticulously reconstruct complex elements like fine filaments, metallic accents, luminescent features, and transparent materials, overcoming the limitations of traditional 3D scanning.
- Unlocking New Possibilities: The neural 3D reconstruction opens the door to innovative applications, including:
  - Natural Language Interaction: Engage with and explore fashion pieces using intuitive language queries.
  - Semantic Search: Perform advanced searches based on concepts, textures, and design elements, enabling more sophisticated fashion exploration.
  - Creative Modeling and Fusion: Combine and manipulate different garments or elements to foster new creative outputs, enabling designers to experiment like never before.
- Redefining Fashion Experiences: This technology is not only a breakthrough for digital archives and virtual fashion shows, but also for creative collaborations, NFT fashion, and real-time 3D modeling.

Neural 3D Reconstruction

Digital Product Passport in Blockchain through Smart Dust DNA®



Three-dimensional neural model of the dress

[CLICK HERE](#) to see the video

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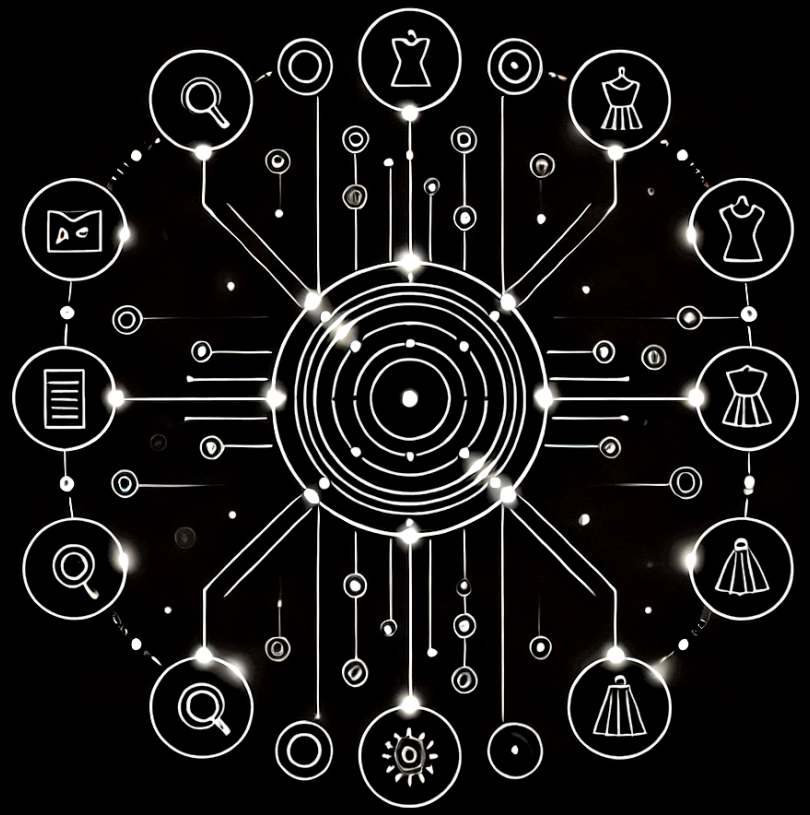
Searching by Concepts



- Unified Data Abstraction: The system intelligently combines and abstracts all available data about a given outfit, including:
  - Texts (descriptions, articles)
  - Sketches & Drawings (design drafts, sewing patterns)
  - Photographs & Videos (runway footage, detailed images)
  - Legacy Database Information (archived records, historical data)
- Conceptual Database Organization: All unstructured data is processed and organized into a conceptual database, providing a coherent, unified framework of knowledge that is immediately accessible.
- Powerful Semantic Search: Enables precise, context-aware searches based on meaning, allowing users to explore outfits and designs by:
  - Style, texture, and color descriptions
  - Historical relevance or design inspiration
  - Visual characteristics, even abstract or conceptual queries
- Instant Usability: The system transforms vast amounts of disparate data into actionable insights, offering seamless access to detailed fashion knowledge for designers, researchers, and fashion enthusiasts.

Searching by Concepts

3D Models

Labels

Book and video

Sketches

Description

An outfit consisting of a faux fur scarf, leather pants with distinctive details, and a bag, without a top or shoes.

The faux fur scarf is voluminously draped over the mannequin's shoulders. The fur is predominantly deep red with black shades, creating a vibrant and luxurious effect. The texture is soft and fluffy, with tufts that give a wild yet elegant appearance. The craftsmanship of the scarf suggests attention to detail and high-quality production.

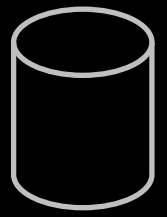
The leather pants feature a complex and detailed construction. The primary color is light brown, giving a vintage look. The surface is decorated with engravings and elaborate patterns that extend along the entire length. The pants are also adorned with fringes that hang fluidly, adding movement and dynamism to the garment. The fringes appear to be precisely cut, imparting a sense of craftsmanship.

Various decorative and functional elements are noticeable, such as straps and buckles, adding visual complexity. A bag is attached to the mannequin's right hip, in boho-chic style, with numerous details like feathers and beads that add an ethnic and artistic touch. The bag seems to be made of natural materials, complementing the outfit's overall theme.

At the back and sides of the pants, the fringes and intricate seam construction are noticeable. The fringes are long and thin, creating a visually intriguing effect.

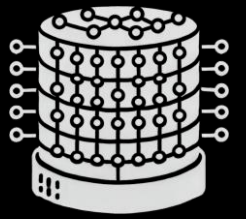
Overall, the outfit is an explosion of textures and details, with a strong Bohemian influence and a nod to ethnic and wild chic styles. The use of faux fur and leather indicates a preference for luxurious materials, while decorative details like fringes, feathers, and beads add a personal and artisanal touch.

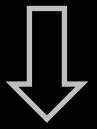
Legacy Database



Unstructured data

AI-Driven Conceptual Database





SUI

Semantic User Interface

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AI Virtual Show

- From Mannequin to Model: The system begins by scanning the garment on a mannequin using advanced 3D scanning technology. The data is then transformed into a high-fidelity digital representation.
- AI-Generated Model: Through AI, the system animates a virtual model to wear the scanned outfit. The model can be customized to fit specific body types and aesthetic preferences.
- Natural Language Interaction: Users can request specific performance scenarios through simple natural language commands. Whether it's a traditional runway walk or a dramatic barefoot descent down a fiery volcano, the AI interprets and brings these creative visions to life.
- Real-Time, Dynamic Visuals: The system produces an immersive video of the virtual model executing the requested performance with the garment. Each scene is rendered with stunning realism, capturing every detail of the outfit in motion.

AI Virtual Show

Select
Outfit

+

Select
Model

Select
Environment

Select
Animation

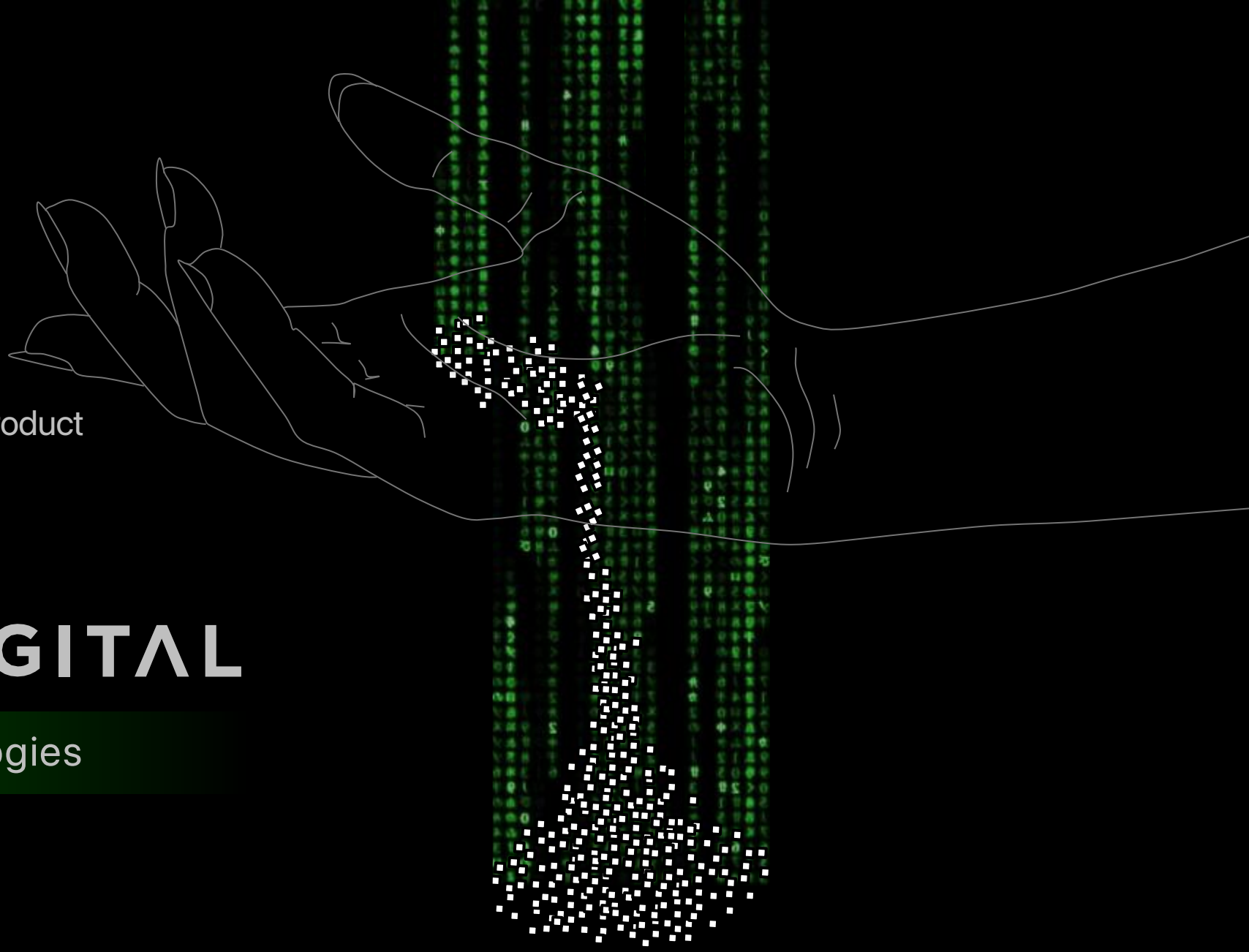
"The model descend from a volcano, walking barefoot on the scorching ground"

=

Click here to see the videos:

- Animation 1
- Animation 2
- Animation 3

NATIVE ITAL



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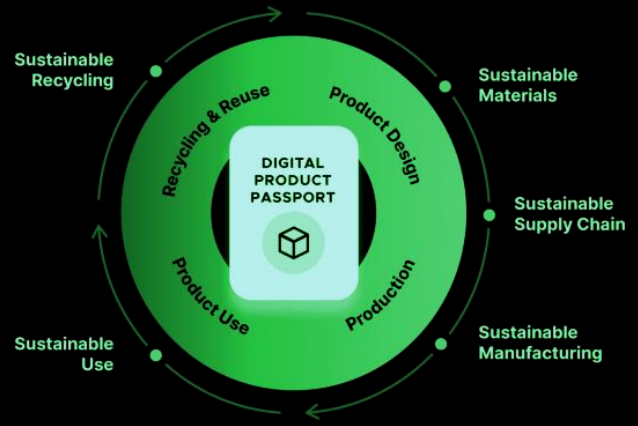
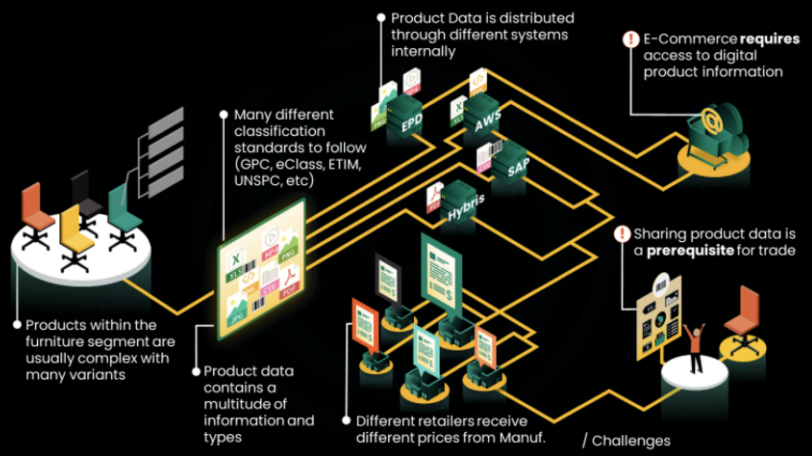
The Underlying Technologies

The Digital Product Passport



- Key EU Initiative: The DPP is a regulatory measure introduced by the European Union to promote transparency and sustainability throughout a product's life cycle.
- Part of ESPR: It falls under the Ecodesign for Sustainable Products Regulation (ESPR) approved in 2024, aiming to ensure that products are more sustainable and circular.
- Comprehensive Product Information: The DPP provides detailed data on materials used, origin, environmental impact, reparability, recyclability, and disposal methods.
- Mandatory Implementation: Starting in 2026, it becomes mandatory for priority sectors like batteries, electronics, textiles, furniture, and chemicals.
- Digital Accessibility: Information is accessible via a digital identifier, allowing consumers, authorities, and businesses to assess environmental impact and regulatory compliance.
- Goal for 2030: By 2030, nearly all products sold in the EU must have a digital passport, accelerating the transition to a circular economy.

DPP Challenges



- Supply Chain Transparency: Need to accurately trace every production stage, from raw materials to end-of-life.
- Data Collection and Sharing: Must collect detailed information on materials, carbon emissions, reparability, recyclability, etc. from unstructured and inhomogeneous data sources.
- Costs and Technological Investments: Significant investment needed in technology for data management. Implementation of systems like blockchain or tokenization for managing digital passports.

Product Life Cycle

Raw Materials → **Manufacturing** → **Logistics** → **Retail** → **Customer** → **Second Hand** → **End of Life**

Nano-sized Engineered DNA
Sprayed onto the materials

Micro-sized Smart Dust DNA
Embedded into the product

Extended Range Digital DNA
Long Range → Store
Wide Range → Warehouse
Global Range → Tracking and Monitoring

Quick Access Digital DNA
QR Code and NFC

Effective Recycle

The history of the raw materials is transferred to digital DNA

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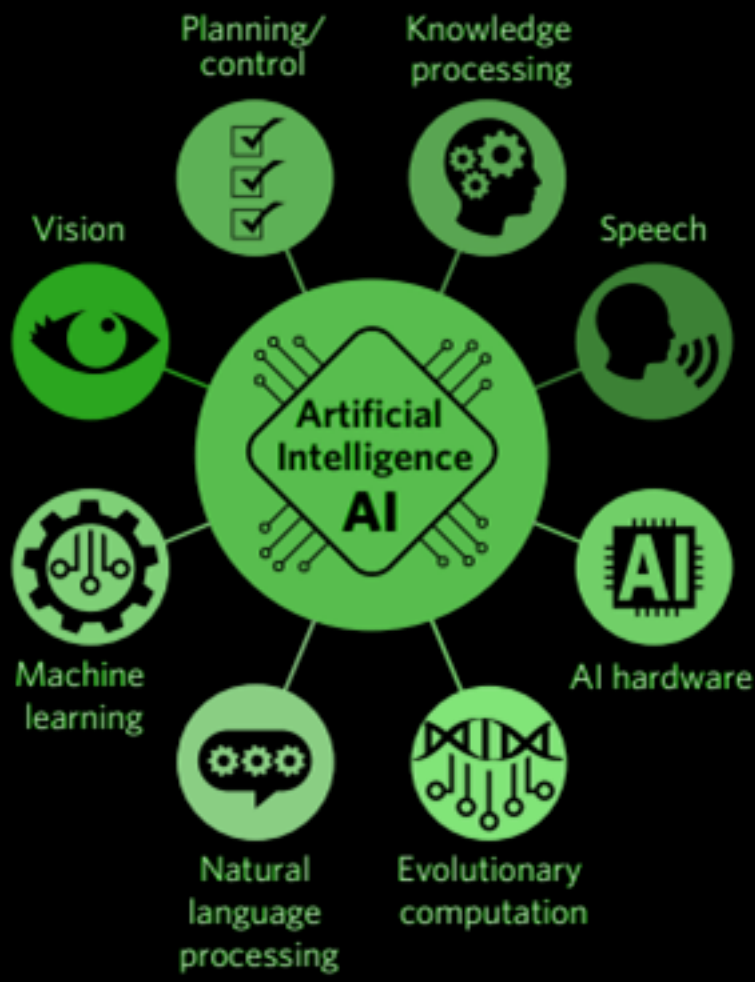
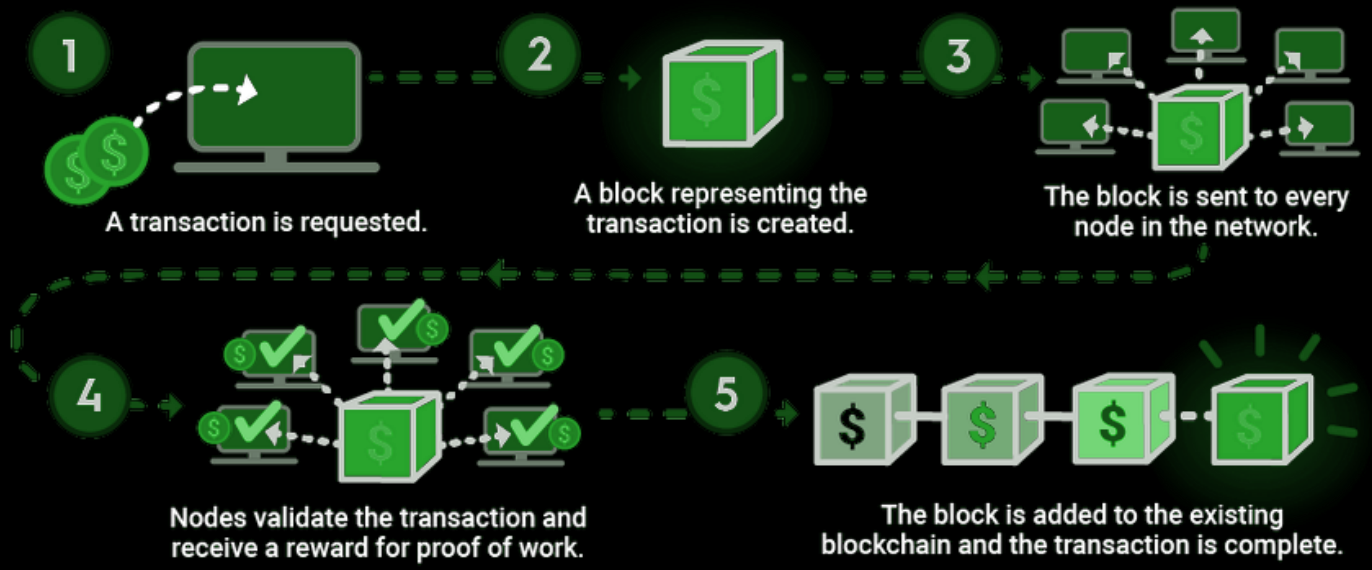
The Artificial Intelligence

- Definition: AI is the simulation of human intelligence processes by machines.
- Key Components:
  - Natural Language Processing: Understanding and generation of human language.
  - Computer Vision: Interpretation of visual information from the world.
  - Machine Learning: Algorithms that enable computers to learn from data.
  - Robotics: Integrating AI to control and interact with mechanical devices.
- Applications:
  - Healthcare: Diagnostics, personalized medicine and drug discovery.
  - Transportation: Autonomous vehicles and traffic management.
  - Customer Experience: Virtual assistants.
- Benefits:
  - Enhances efficiency and productivity.
  - Improves decision-making through data analysis.
  - Automates repetitive and complex tasks.



The Blockchain

- Distributed Ledger Technology: Decentralized database shared across a network of nodes. Each participant maintains a copy of the ledger.
- Immutability and Security: Transactions are recorded in blocks linked in a chronological chain. Data cannot be altered or deleted, ensuring security.
- Transparency and Trust: All transactions are transparent to authorized participants. No intermediaries by enabling peer-to-peer transactions.
- Beyond Cryptocurrency: Enables smart contracts, secure data sharing and digital identities.
- Key Features: Decentralization, Transparency, Security, Efficiency.



Tokenization of Physical Assets

The Opportunity

Many countries are shifting towards regulations on the Digital Product Passport (DPP) to achieve the Green Deal and meet the growing consumer demand for safety and transparency.

The Blockchain

Unlike traditional data storage, Blockchain is immutable and every piece of information is recorded in chronological order. It is a distributed write-once ledger and it guarantees an unparalleled level of data integrity over time.

The Problem

To effectively apply a Blockchain powered DPP to any physical asset, it requires a technology so resilient that it can be embedded into virtually anything, supporting it throughout its entire lifecycle without degradation and ensuring complete protection against forgery.

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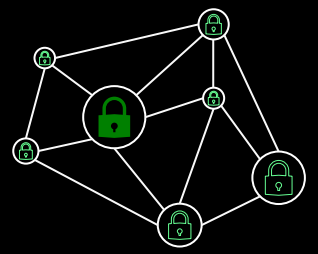
The Solution: Smart Dust DNA®



Random Dispersion of µRFIDs

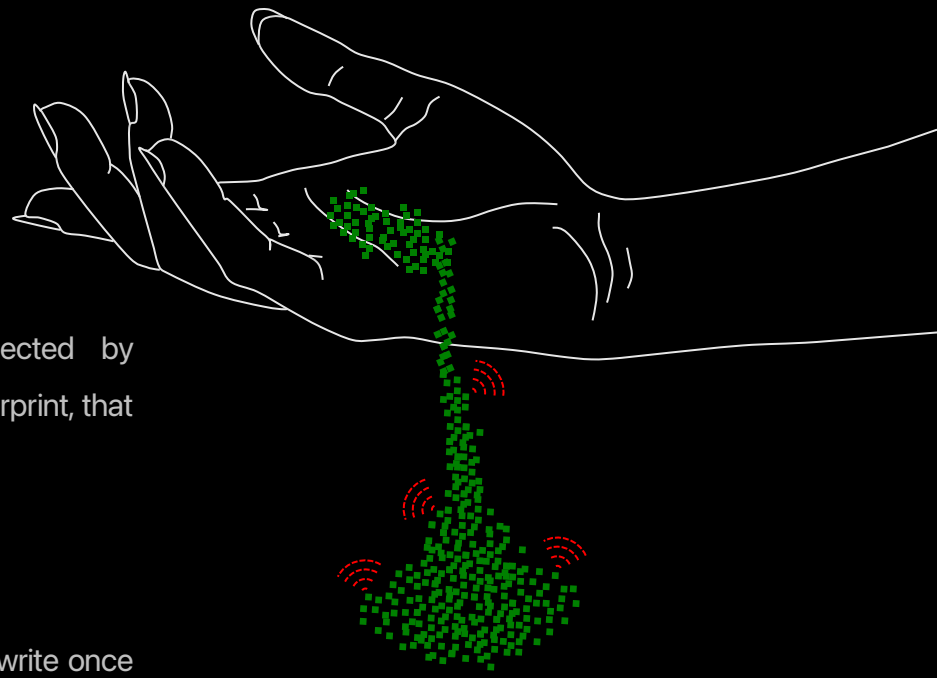
A random dispersion of sub-millimeter-sized transponders, interconnected by topological relationships, collectively forming a unique and irreproducible fingerprint, that can be integrated within any product.

Fault Tolerant Time-Proof Solution

The unique fingerprint is calculated and then permanently encoded into the write once memory of each component, making the system capable of withstanding up to 40% loss of its components over time.

Expanding Blockchain into the Physical Realm

The identification data are encrypted and inherited using the same solutions that underpin blockchain technology, serving as a natural extension into the physical world.



CLICK HERE

To watch the video

"Great things are done by a series of small things brought together"

Vincent Willem Van Gogh (1853 - 1890)

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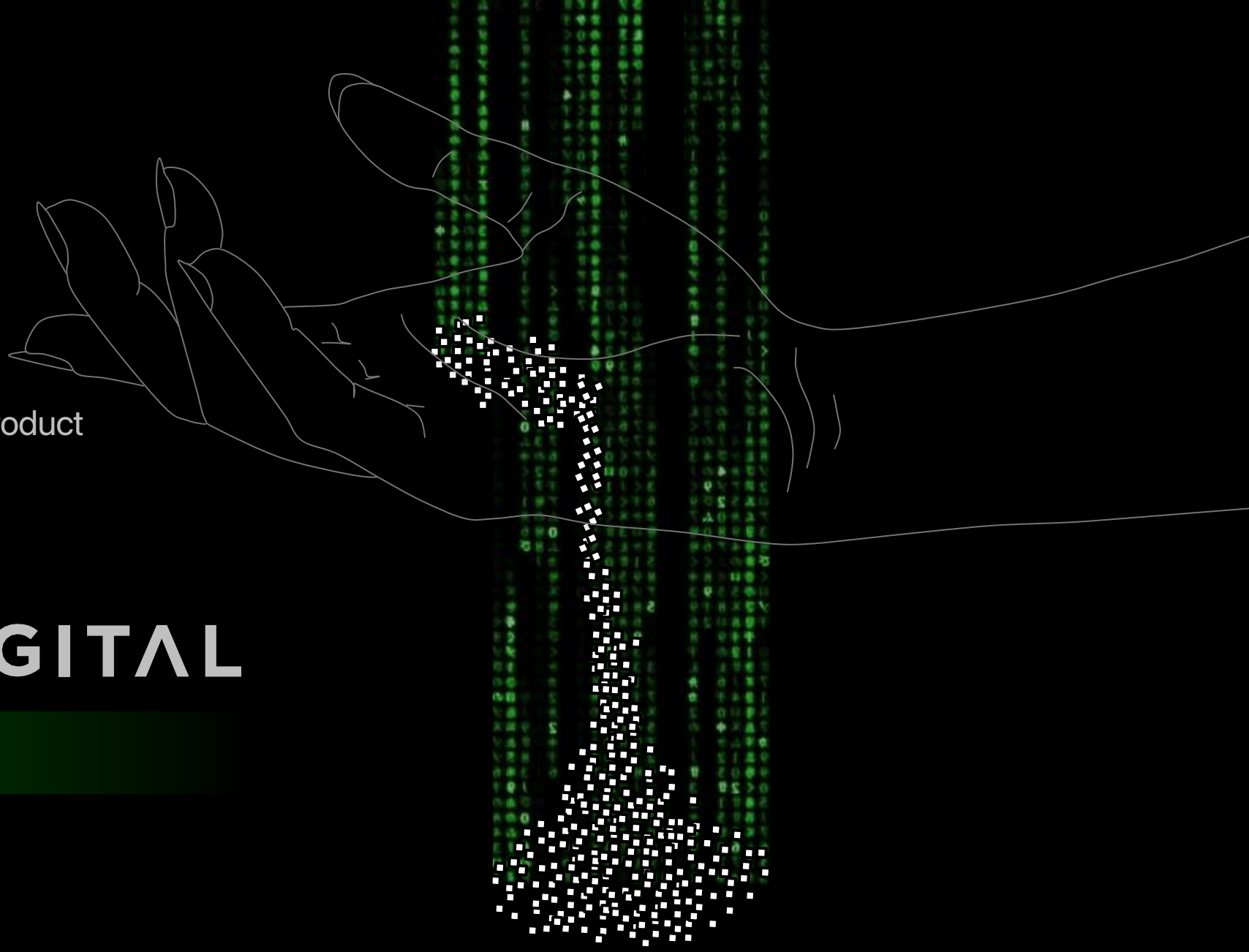
Technological Strengths

- No Single Point of Failure
- Fault Tolerance (withstand up to 40% loss of compon
- Multiple Communication Ranges (Short, Long, Wide, G
- Wide temperature range (from -200℃ to +300℃)
- Wide pressure range (up to 1500 bar)
- Waterproof (IP69K degree of protection)
- Entire Lifecycle Longevity

Our Range of Solutions

Type	Size	Reading range	Application
Ultra Wide Range 	20-40 cm^2	50 km / global 	Applicable in the form of a laminated warranty card or as a flexible adhesive label
RFID / NFC 	10-20 cm^2	10 m 	Applicable for adhesive label made of plastic film or paper, and for fabric care label
Smart Dust 	0.2-3 mm^2	10 mm 	Into plastic products / overmolding, on metal / carbon / conductive materials, mixable with paint / glue / rubber, applicable for any type of label



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Experiment with Us

TRY YOURSELF

1. Scan the QR code using your smartphone
2. Sign up as a new user to receive 10 credits
3. Try out the following features:
    a. 3D neural models of haute couture dresses
    b. AI-powered calorie estimation for food or meals
    c. AI to describe any image
    d. Augmented Reality App for (iOS only)
    e. AI-generated virtual fashion shows (coming soon)
    f. AI-driven virtual try-on (coming soon)

SCAN WITH YOUR CAMERA

OR

CLICK HERE

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