Mastercard Provenance Solution

Leveraging Mastercard's secure Blockchain with traceability capabilities and value-added services to achieve transparency and gain efficiencies in complex supply chains

Liability with no visibility

Greater complexity and a lack of visibility across modern supply chains have made it increasingly challenging for brands to protect their reputations and uphold quality and authenticity standards.

FASHIONUNITED

NEWS · JOBS · LOOKBOOK

Global counterfeiting costs luxury brands billions of do

Don-Alvin Adegeest | Saturday, May 19 2018

Counterfeiting is much more than the fake Louis Vuitton and Gucci bags we see on during summer holidays.

The Global Brand Counterfeiting Report 2018 estimates that the losses suffered counterfeiting has amounted to 323 Billion USD in the year 2017, with luxury brands incurring a of 30.3 billion dollars through internet sales.

The report analyses the size, mode, trade routes and issues underlying counterfeiting of high end consumer goods, specifically clothing, textile, footwear, cosmetics, handbags, and watches. The estimated losses due to counterfeiting of high end consumer goods amounted to includes counterfeiting from offline as well as online mediums.

The global counterfeit market is booming
The globalization of trade and communication has offered unparalleled opp

NEWS
FAKE FORMULA BOUGHT AT WAL-MART MADE BABY VOMIT, POLICE INVESTIGATE LAUNCHED

Newsweek

FAST COMPANY

Counterfeiting is a billion-dollar problem. COVID-19 has made it far worse

Opportunistic counterfeiters are taking advantage of the crisis to sell fake or nonexistent masks and other goods—along with fake cures for the coronavirus.

IndustryWeek 50

SUPPLY CHAIN > INVENTORY MANAGEMENT

Counterfeits in the Supply Chain: A Big Problem and it's Getting Worse

Forbes

Coronavirus Crisis Shines Light On Sustainability In Global Pharma And Medical Supply Chain

Nishan Degnarain Contributor
Manufacturing

World Health Organization

Growing threat from counterfeit medicines

Lifesaving drugs are not exempt from the trade in counterfeit medicines. The World Health Organization (WHO) is working with Interpol to dislodge the criminal networks raking in billions of dollars from this cynical trade.

DAILY NEWS

Fake labels on supermarket fish hook New York consumers, state study finds

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Mastercard Provenance Solution delivers end-to-end visibility

Process order	Source material	Manufacture goods	Ready to ship	In transit	Arrived at customs	Delivered	B2B Payments

Using our global, blockchain-based solution to deliver real-time traceability, parties can bridge the gap between data silos and make business decisions based on a shared record that drives visibility and accountability between supply chain participants.

With this transparency, brands will be empowered to gain efficiencies in their businesses, such as enabling automatic payments between parties, improving reconciliation times and reducing disputes.

suppliers

manufacturer

wholesaler

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Industry agnostic and applicable to many use cases

Mastercard's Provenance Solution works across industries and businesses of all sizes to bring greater visibility to a product's journey.

Greater transparency builds trust between parties, driving supply chain efficiencies, streamlining processes, and increasing overall resiliency.

Agriculture

Cosmetics

e-commerce

Electronics

Food & Beverage

Logistics

Stones & Minerals

Luxury Goods

Oil & Gas

Pharma & Healthcare

Platform may be used to address many different industry use cases, for example:

Product Storytelling	Self-billing	Reconciliation & Dispute Management	Sustainability Tracking	Trade Finance	Regulatory Compliance	Secondary/ Resale Market
Product Authenticity Certificate	Provenance	Risk Management	Parametric Insurance	Supply Chain Financing	Recall & Return Management	Asset Lifecycle Management

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Mastercard Blockchain | Design Principles

Interoperable, resilient, scalable and secure.

Performance
Proven to process +20K events
per second (TPS
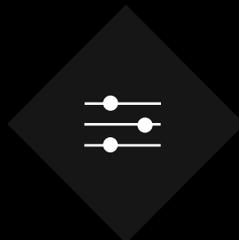
Flexibility
A platform capable of
running multiple applications

Mastercard Assets
Combined with Mastercard capabilities to
create unique value, e.g., AI, insights,
counterfeit programs

Scalability
The consensus mechanism brings
commercial processing speed and
extensibility to the Blockchain

Privacy & Permission
event between two participants
remain confidential, through the
private peer-to-peer value back-
channel.

Safety & Security
Compatible with Mastercard's existing
security infrastructure

How It Works

BUILD YOUR SUPPLY CHAIN FROM MULTIPLE DATA STREAMS

ORGANIZATIONS
Data about companies and their products and locations

SUPPLY CHAIN EVENTS
Events happening to items as they move through the supply chain

IOT SENSOR DATA
Data from IoT sensors such as temperature, geolocation, humidity, etc.

DOCUMENTS
Key data about documents throughout their lifecycle

PAYMENT TRANSACTIONS
Data about payment transactions between supply chain parties

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Provenance Solution

Blockchain

THEN LEVERAGE TOOLS TO PROCESS DATA TO AUTOMATE & OPTIMIZE SUPPLY CHAINS

SMART LOGIC & TRIGGERS
Use tools like smart contracts to build self-executing conditional logic to automate workflows, such as payments

NOTIFICATIONS
Leverage webhooks to connect and automate workflows

AI/ANALYTICS
Identify actionable insights. Advanced techniques like AI or machine learning can also help flag anomalies

MASTERCARD PORTFOLIO
Leverage integrations to existing products & services in Mastercard's portfolio such as payments, analytics, etc.

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Technical Solution Architecture
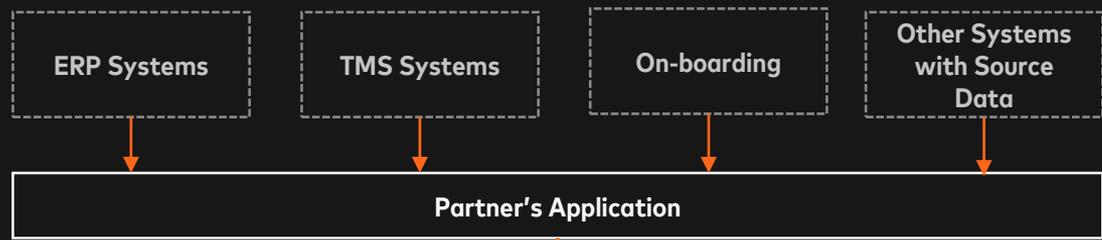
ERP Systems

TMS Systems

On-boarding

Other Systems with Source Data

Partner's Application

Mastercard Provenance Solution

SDK

REST APIS

Batch APIS

Microservices

Notification Service

Business Event Service

Smart Contract Service

IoT Events Service

eDocuments Service

Payment Service

Integrations Service

Blockchain Consensus Node

Blockchain

Audit Nodes

Smart Contracts

Digital Assets

Systems Integrations

Mastercard Payment Solutions

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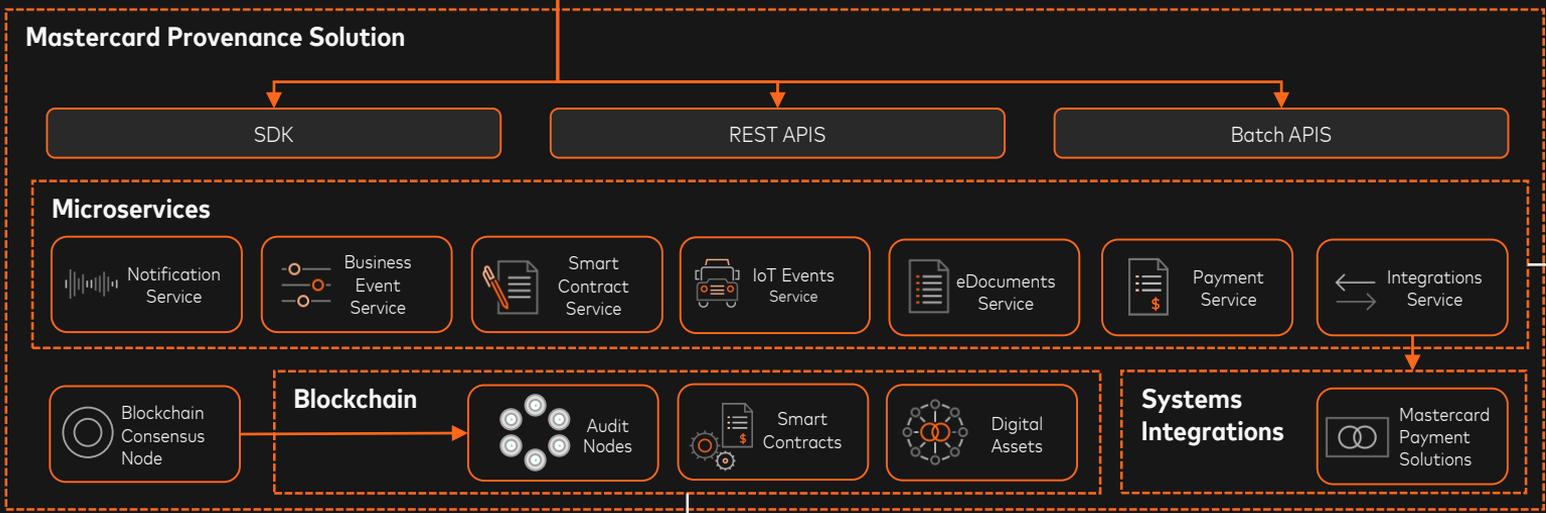
Provenance Live Cases: Intel IOT Sensors

VISIBILITY

Continuous, Cloud-Based, Multiparty Visibility
POWER TO FOCUS ON EXCEPTIONS

BLOCKCHAIN

Damage Data

SOP-Compliant &
Digital Payments Enabled

Producer Provenance Data

End User Provenance Data

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ICLP - SUPPLY CHAIN ORCHESTRATION - WEB CONNECT - APIs

PHYSICAL/ DIGITIZATION

CONTINUOUS MONITORING

intel

Origin

Intermediate Points

Destination

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Provenance Live Cases: Seafood Traceability from Ocean to Grocery Stores

Partnered with Envisible's food system, the solution is distributed through Topco, a coop of over 50 regional grocers that in aggregate form the second largest grocery network in the US

1

Seafood Counter

2

Frozen Packaging

3

Value Added Meals

4

A Few Members

Topco and Envisible traceability program starts with seafood

Provenance Live Cases: Dry Commodity Traceability in Agriculture

Mastercard partnered with GrainChain to bring authenticity to supply chains, tracing more than 24 commodities, such as coffee, sorghum and grain, in Latin America and North America

Using Mastercard's award-winning proprietary and industry-agnostic blockchain technology, Mastercard and GrainChain together are creating digital records of commodity data, building trust and leveling the playing field across supply chains

Provenance Live Cases: Avocado Traceability

Mastercard partnered with Fresh Supply Co., a supply chain digitization company based in Australia, to deliver end-to-end visibility of journey of avocados from Australia to Southeast Asia. Consumers were able to trace each step of the product journey.
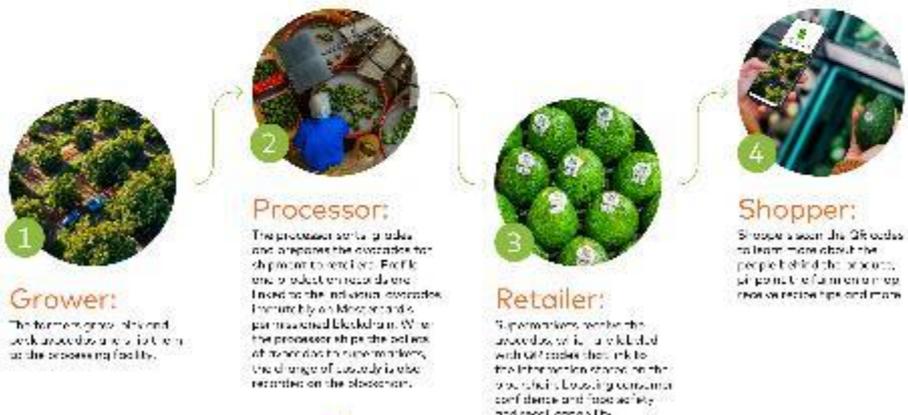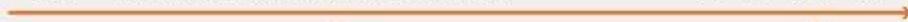
Additional Provenance Links & Videos

- Videos:
  - [Mastercard Provenance Solution](#)
  - [Payment Trigger Video](#)
- Articles
  - [Hungry for information: How blockchain can build trust in food supply chains](#)
  - [Growing Demand for Transparency: Mastercard and GrainChain Give Producers Visibility into Commodity Supply Chains](#)
  - [Tracing shrimp to the source using blockchain](#)
  - [Mastercard Blockchain to Bring Visibility to Food Systems](#)
  - [Mastercard Enables Luxury Shoppers To Purchase With Confidence](#)

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Provenance

Driving supply chain insights.
Building a global network of trust.