USE CASES

Introduction

Kalima is a Blockchain designed to secured and guaranteed thevstorage and transfer of the od sensitive data from the industries which use IoT, interconnected objects.

The features and advantages of Kalima allow it to be usefull in many industries thanks to an very efficient development API which enable developers and makers to develop Decentralized Applications (DApps) and use cases in many areas.

This document presents some use cases realized by Kalima, some are POC, some are prototypes, others are production level applications and Product.

Typical Use Cases For Kalima Blockchain

When mutual trust based on distributed digital evidence is a prerequisite.

- Mobile Worker
- Healthcare
- Asset's Digital Passeport
- Supply chain
- New Mobility
- The Automotive
- Industry 4.0
- Real Estate platform

- Asset's Tokenisation
- Smart Cities & Smart Grid
- Pay-Per-Use Solution
- The 3.0 Construction Site
- Agrothech & Food & Beverage
- Insurance Companies
- Luxury Products
- Smart Economy

Mobile Worker

Remote monitoring solution for infrastructure

Infrastructure monitoring, to have a real time overview of any given site. IoT data is immediatly collected on the infrastructure and secured on the blockchain.
Data is transfered on mobile worker's smartphone applications to allow rapid intervention on site.

Data is secured end to end from IoT objects to the cloud and worker's applications with Kalima Blockchain.

Kalima ensures **integrity, immutability and traceability** of all data to provide a convincing tracing of events and a solid base for **data analysis** and **predictive maintenance**.

Multi IoT Protocol to Kalima Blockchain

LoRaWAN™

HART COMMUNICATION PROTOCOL

Modbus

THREAD

Kalima Systems
Bridging the gap

Client **Enedis**   Partner **RS Component**   Project Status **Deployed on 11 substations in France**   Applications **Nuclear, Oil & Gas, Utilities**

Healthcare

Telemedicine secured by Blockchain

Tracking medicine and allowing traceability: prescription dates, quantity distributed by doctors or nurses, stocks, etc.

Smart monitoring devices for patients and doctors.

Emergency measures can be taken and alerts can be triggered in case of emergencies.

Securing surgical protocols (use case: the OpenIGTLink Interface for Image- Guided Therapy).

Telemedicine including medical imagery.

Kalima
Blockchain & IoT
Collect.Protect.Monetize

Clients **OpenIgLink, Dicom4Android projects**   Partners **Rennes University, New York University**   Project Status **On hold**

Application **Image Guided Therapy, Telemedecines**

Asset Digital Passport

Digital passport of your equipment

Store **all data of your equipment** in a **temper proof digital passport** (which can be a plane, machine, building…)

Record usage, maintenance history and tasks, serial number, owner and origin on a digital passport for the sharing of these information or transfering passports to new owners.

Kalima
Blockchain & IoT
Collect.Protect.Monetize

Supply Chain

Just-in-time Supply Chain

Aiming for interconnected and more efficient supply chains: interconnect data flows/control mechanisms/processes/actions & interactions

Increasing traceability by digitalizing physical assets and tracking them from production to delivery = more visibility for companies and consumers

Reducing cost and risk accross the supply chain

Improving visibility and compliance over outsourced contract manufacturing: all parties have access to the same information = communication reduced, less time spent validating data, avoiding data errors

Reducing paperwork and administrative costs by enabling an audit of supply chain data. For example, processes involving manual checks for compliance can be accelerated with the implementation of a digital ledger where one can find every relevant information

Client **Tenneco from 2012**   Project Status **Ongoing**   Applications **Supply chain, on Demand Manufacturing**

New Mobility

Blockchain for new mobility

As new car generations will have advanced autonomous functions, automating payments and processes are becoming crucial. Kalima Smart contracts have the potential to increase and facilitate automation in multiple ways.
Reducing the need for barriers such as requiring credit cards and bank accounts could allow automated payments to happen seamlessly

The New mobility economy will be built on a peer-to-peer (P2P) system where people are connecting cars, houses and more to those who want fractional use of these resources. The combining of Kalima Blockchain and logging sensor data could enable insurance policies, personal settings and preferences to be bound and unbound to any given vehicle – a massive benefit in car crashing situations.

Partners **Renault, Atos, EDF**   Project Status **R&D Project**   Application **Automotive Energy**

Automotive industry

Blockchain for the Internet of Vehicles

In the upcoming era of the Internet of Things, the Internet of Vehicles (IoV) will play a crucial role in newly developed smart cities.

Maintenance : Kalima Blockchain can help IoT devices track the maintenance and owner history of a particular car. It could follow updates to computerized components. It could track all purchases of cars and transfer of ownership, and all accidents or repairs.

Car Payments : Embedded devices using Kalima Blockchain could make automatic payments in exchange for verified services.

Car sharing : A Kalima Blockchain in an embedded IoT system could allow people to use a vehicle based on communications and permissions through a smartphone app.

Client **Valéo**   Project Status **Internal PoC**   Application **Automotive**
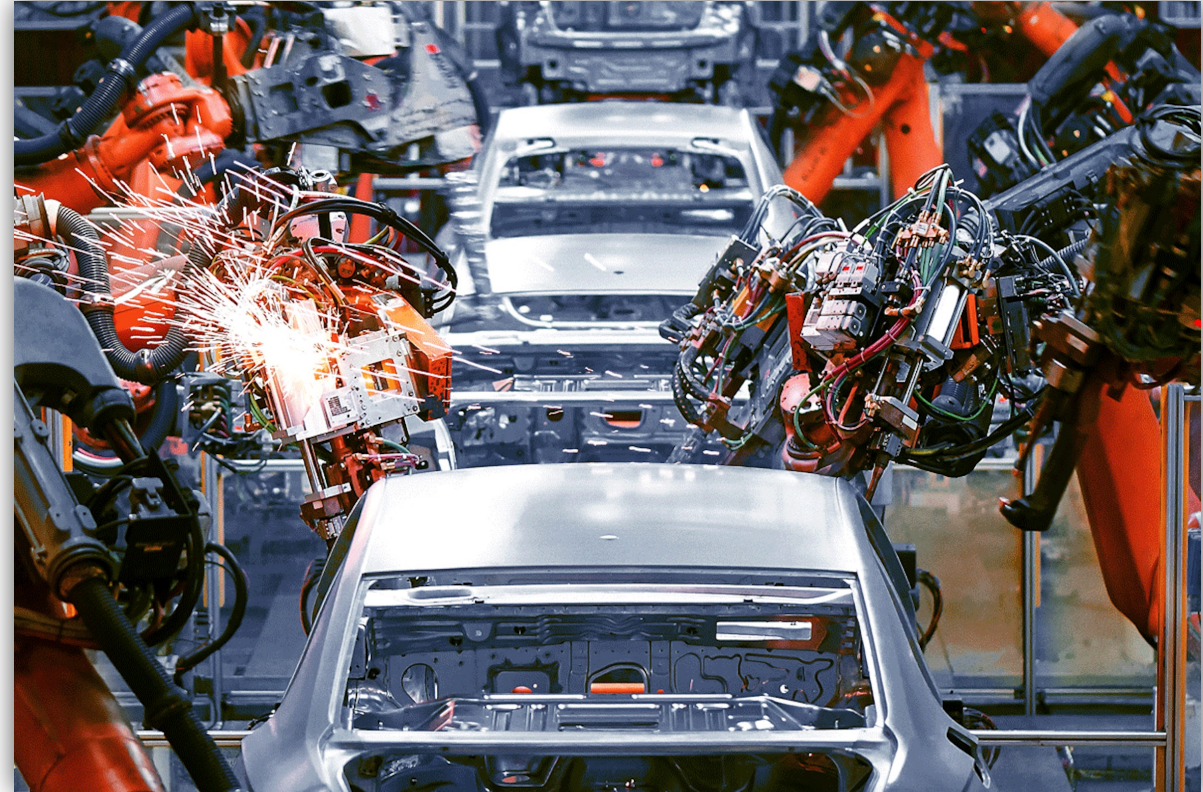
Industry 4.0

Digital Twin of a factory

A digital twin is a virtual representation of a system, such as a processes like product design or a piece of manufacturing equipment, a production line or an entire factory. It improves operational performance, optimizes maintenance and repairs and create new revenue opportunities from innovative digital services.

A robust digital twin requires a massive volume of data from many sources to create a representation that mirrors the physical entity.

The Kalima Blockchain perfectly able to collect massive volume of qualified data and create faster, more secure and innovative digital twin projects leveraging intelligent IoT devices and decentralization as well as immutability attributes of blockchain technology.

Client **Daher**   Partners **SPIE, New York University**   Project Status **Project on Hold**   Application **Utilities, Industry 4.0**

Real Estate Platform

A real estate tokenization platform all inclusive

A real estate tokenization platform bringing together sellers and buyers.

Simple, efficient, secure and innovative access.

Operations can be completed in a few clicks.

Interface "all-inclusive" service from the searching of a property to the handing over of the keys.

Kalima
Blockchain & IoT
Collect.Protect.Monetize

Asset's Tokenization

R&D Project for Industrial Tokenisation

Kalima Blockchain will help developers create their own token designed for their business model inspired by their ideas.

Kalima will allow to deploy your own custom token to monetize your business models converting physical data into a liquid token tradable in the community. All smart contracts created by the community of developers will use the technical standard token form of Kalima Ecosystem known as "KL20".

Partner **Renault, EDF, Atos**

Applications **Utilities, Automotive**

Smart Cities & Smart Grid

Collaborative Economy with a local compensation system

Cities can interconnect using blockchain vertical services, such as mobility, energy or security, through a single open, accessible and transversal system that is able to exchange data with their inhabitants in real time.

Kalima
Blockchain & IoT
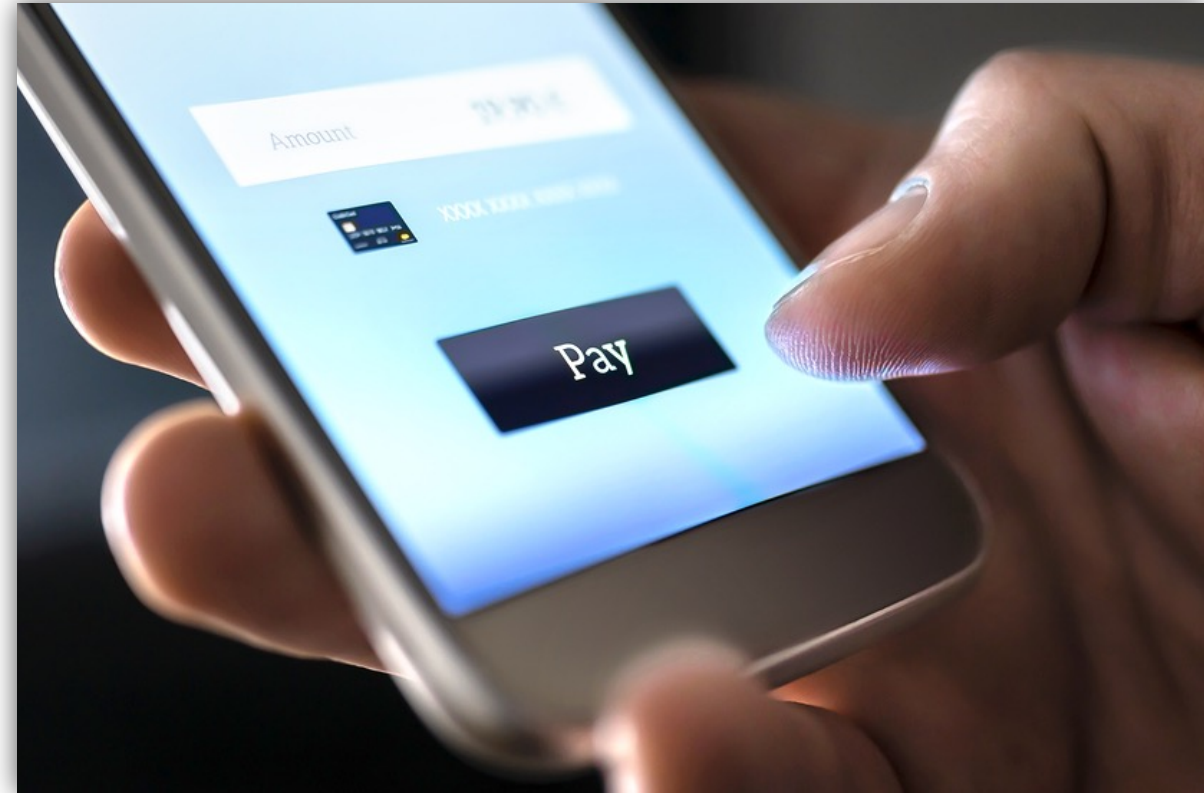Collect.Protect.Monetize

Pay-Per-Use Solution

New business model with Kalima Blockchain

The pay-per-use model is a model in which only the actual usage of the machine is being paid.

The user fee is dependent on previously defined parameters such as output or other indicators which can be measured through sensors.

Leveraging IoT and blockchain with smart contracts to automate processes like invoicing or payments saves resources for manufacturers and users of machines.

The aspect of maintenance is another very interesting field for a Kalima blockchain-based pay-per-use solution. Collecting and analyzing usage-related machine data, whereby storing these data on a Kalima Privachain allows to create predictive maintenance models.

Clients **Machine manufacturer**   Partners **SIEMENS Fimancial services**   Project Status **On hold**   Application **Manufacturing**

The 3.0 construction site

Real Time overview of a construction site for traceability and security

To reinforce the steering operations of the construction sites in order to meet deadlines, ensure quality, safety and contain costs more effectively.
Kalima Blockchain connected with IoT devices can help having an overall real tile vision of the ongoing construction sites :

- In real-time,
- On a given-territory,
- Geolocation-based,
- With a detailed state of progress,
- Completed by the updated dates of completion of the works

Client **Enedis**　　　　Partner **Eiffage**　　　　Project Status **On hold**　　　　Application **Construction Sites**
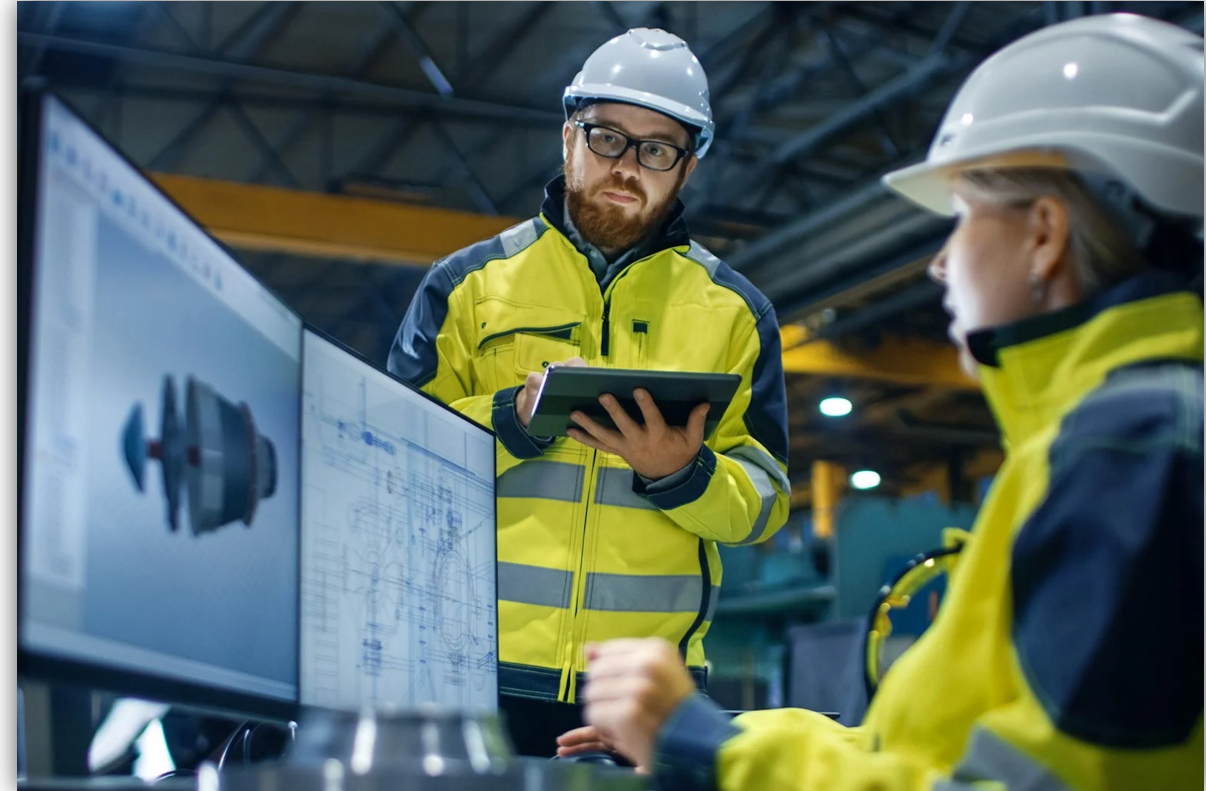
AgroTech, Food & Beverage

Track and Trace Products for food supply chain and traceability

Kalima blockchain technology for F&B connects participants through a transparent, permanent and shared record of:

- food origin details,

- processing data,

- shipping details, and more

Traceability thanks to blockchain allows all food system participants to know the origin, real-time location, and status of their food products.

Having such information helps prevent foodborne diseases, reduce food waste and carbon footprint.

Information protected by NDA

Insurance companies

Blockchain to automate processes for insurance

Enabling automated processing with the use of Smart Contracts = aims at avoiding tedious claim processes = winning clients' trust

Blocking false claims: limiting fraud

Capturing time-stamped transactions with complete audit trails

Building settlement terms into a Smart Contract to trigger automated payouts in the event of an authenticated incident.

Kalima
Blockchain & IoT
Collect.Protect.Monetize

Proof of Authenticity of Luxury Products

A Digital Passport for luxury products

Kalima Blockchain can be used to create a digital identity for valuable goods, such as bags, sneakers and watches. The digital identity is like a passport that assures the authenticity of both new and vintage goods and records information such as transfers of ownership or when the item is serviced.

Depending on the brand, the passport can be linked to the item through serial number, chip or QR code, accessible through an app.

As this process becomes standard, it will be challenging to sell fakes at scale.

Digital passport register last all lifecycle

Information protected by NDA
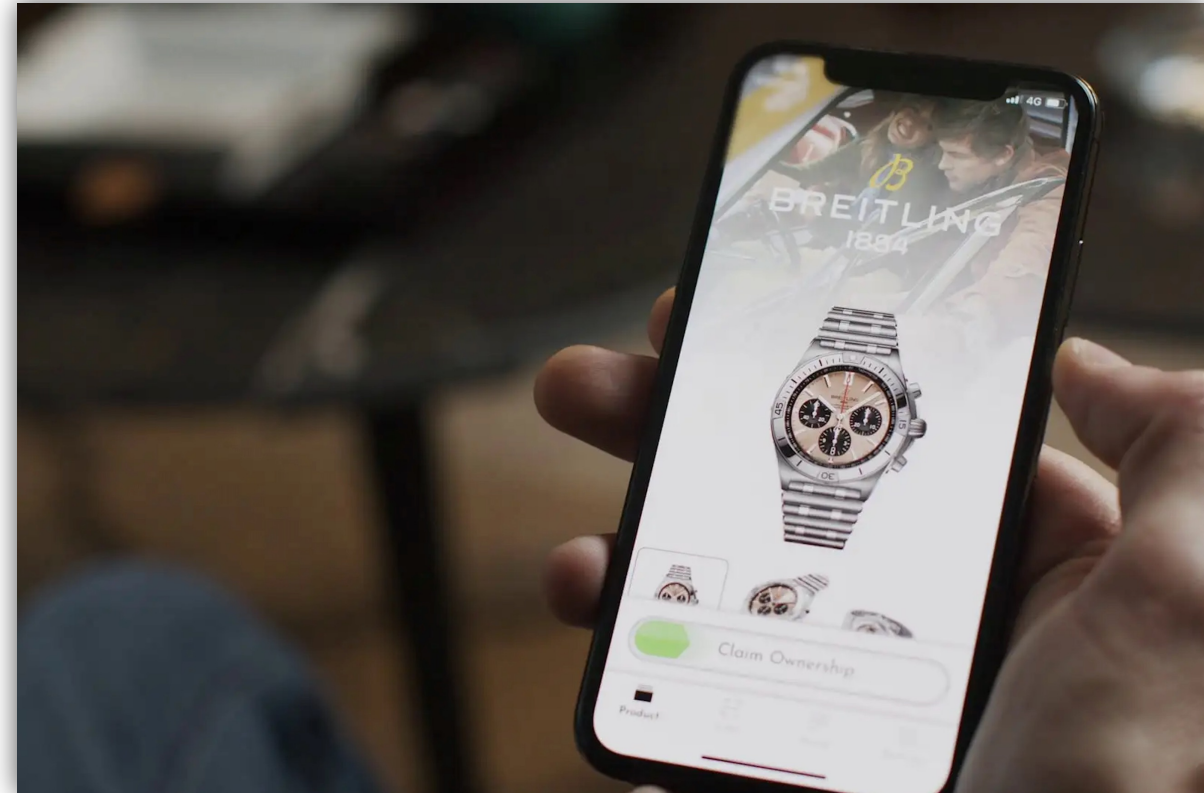
Smart Economy

A mobile payment solution to build local currency tokens and connect people

Kalima Blockchain has built a mobile payment solution application to create, buy and exchange digital local currencies.

A collaborative economy with a local compensation System

Local currencies created can be used by an eco-district or local authority to boost local economy by giving incentives for citizens that buy and use local products with the digital local currencies

Information protected by NDA

Kalima
Blockchain & IoT
Collect.Protect.Monetize

Follow The Future IoT Blockchain Leader.

www.kalima.io   **Linkedin** Kalima   **Twitter – Instagram** @Kalima_KLX