HOW DAHER HAS ACHIEVED COMPLETE REAL-TIME SUPPLY CHAIN VISIBILITY USING THE AUTHENTICITI BLOCKCHAIN PLATFORM

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ABOUT THE WEBINAR

Webinar ID: 934_576_702

• **Audio**: Use computer audio or see webinar info for telephone dial-in #s

• **Q&A**: Please post questions in the Q&A window. We will answer questions at the end of the webinar.

• **Recording**: The webinar will be recorded and made available on demand.

• **Problems?** Email maya@authenticiti.io

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Authenticiti
Authenticiti is a Supply Chain Operating System

It overlays on top of existing systems of record to aggregate **critical** supply chain data into a single source of truth.
Authenticiti offers a supply chain Operating System that overlays on top of existing systems of record to aggregate critical supply chain data into a single source of truth.

**Rapid Deployment**
- Stand up a blockchain network quickly; abstract out the infrastructure needed to build apps.
- Support for multi-cloud VPC’s; AWS, Azure or Google Cloud.
- Configurable application templates for enterprise customer use-cases.

**Distributed Security**
- Federated data sharing with internal users and external partners.
- Encryption and key sharding mechanism pre-built into the network protocol.
- Security scales exponentially with additional users.

**High Scalability**
- A middleware layer enables data ingestion from legacy software.
- Interoperable with multiple protocols. (Ethereum, Hyperledger Fabric, Corda)
- High volumes of on-chain data is fully supported. Selection of consensus algorithms to suit the use case.
PRODUCT ARCHITECTURE

- Connect: integrate data from all sources
- Store: rapid retrieval at scale
- Validate: Cleanse, join and combine
- Automate: Self-serve no-code workflow automation and alerts
- Visualize: Self-serve dashboard creation and data aggregation
- Collaborate: built-in messaging and secure data sharing tools
UNIQUE DIFFERENTIATION

No-Code ETL
Automate Workflows
Without any Code

Distributed Security
Complete control over
shared data

Network Effects
Captures the viral relationships
between buyers and sellers
**INTEGRATE**

Ingestion Layer:

- Suite of connectors to enterprise applications and enables seamless bi-directional integrations and aggregates critical data into a single source of truth
- Supports ingestion and parsing of excel and PDF documents

No-code field mapping interface:

- Business users can select the desired field/table/system to combine, join and map together with related fields from external systems
- This process streamlines the previously complex task of mapping duplicate fields between siloed enterprise systems
Self-serve/no-code workflow automation tools

- Business users can select desired fields/tables/systems and create complex workflow automation logic with a drag and drop interface.
- Users can create custom events in external systems with desired ranges for specific data inputs as triggers.
**SECURE**

**Federated Data Sharing**

- Key sharding encryption built into blockchain database to enforce granular permissions
- Drag and drop data from enterprise systems to share with users
- Sensitive data can be shared directly from on-premise server or hybrid cloud behind the corporate firewall
- As more users join the platform the blockchain database replicates permissions and data becomes more secure
REAL-TIME ALERTS

Features

- Configurable alerts to inform stakeholders of SLA infractions in real-time
Features
- Aggregates critical supply chain data from integrated systems in real-time
- Eliminates manual reconciliation of excel spreadsheets
- Eliminates limited EDI connectors
Real-time validated production and logistics visibility of individual parts led to reduced delivery rejection, 60% dispute reduction and on-time payments.

Auto-reconciliation with smart contracts reduced rebate calculation lead-time from 9 months to 1 day.

The information comes from different channels: ERP software, parts scanning, delivery and customer declarations...IOT sensors can be traced back to this platform when it is transported, like temperature, humidity, acceleration. The advantage of this platform is that it is modular and you can add new bricks as you go along.

Gabriel Raffour, innovation project manager at Daher
A FAMILY OWNED COMPANY

KEY FIGURES

3 BUSINESSES

AIRCRAFT MANUFACTURER
AEROSPACE EQUIPMENT & SYSTEMS
LOGISTICS & SERVICES

10,000
AVERAGE HEADCOUNT

$1.5 billion
REVENUE

3 years
OF REVENUE ON THE ORDER BOOK

50/50
DIVISION OF REVENUE BETWEEN INDUSTRY & SERVICES

11
COUNTRIES WITH A DIRECT COMPANY PRESENCE

9
ENGINEERING CENTERS

1 DAHER LAB

80%
OF REVENUE IN AEROSPACE

20%
OF REVENUE FROM OTHER ADVANCED INDUSTRIES
DAHER IS AN AIRCRAFT MANUFACTURER AND SERVICES PROVIDER

AREAS OF ACTIVITY & BUSINESS LINES

**AIRCRAFT MANUFACTURER**
- TBM
  - Maintenance
  - Repair & overhaul
  - Second worldwide in its category

**AEROSPACE SYSTEMS & EQUIPMENT**
- Aerostructures
- Aero engines
- Aircraft interiors
- An independent worldwide leader

**LOGISTICS & SERVICES**
- Industrial Contract logistics
- Manufacturing services
- Supply chain services
- Project forwarding & exceptional transport
- Leading industrial logistics player in Aerospace
MISSION
Contribute to turn DAHER into a digital company by capturing the value of digital from the cradle of digital.

INNOVATION PROGRAM

3 ACTIVITIES
- Partnering with new tech start-ups that will change the game
- Disrupting industrial supply chains thanks to #Blockchain #AI…
- Providing Daher customers the ultimate innovations in Supply Chain Management solutions

2 PEOPLE
- VP Innovation strategy – Cédric Eloy
- VP Digital strategy – Florent FRANCOIS

1 OUTPOST
- Located in SAN FRANCISCO at THE VAULT
END TO END VISIBILITY – PAIN POINT

INFORMATION SILOES CREATE MASSIVE INEFFICIENCIES FOR OEM’S

Supply Chain
- Complex point-point integrations between legacy systems
- High Reconciliation Costs
- Locked up working capital from disputes and storage costs
- Outdated lead-time calculations

Aftermarket
- Fragmented asset records
- Reduced asset value
- Delayed asset sale/lease
END TO END VISIBILITY – BLOCKCHAIN BASED SOLUTION

TRACE OUR ACTIVITY AND REINFORCE VISIBILITY ALL ALONG THE SUPPLY-CHAIN AS OUR TIER 1 POSITION

VALIDATE & ACCELERATE DECISIONS
- Derogation
- Delivery
- Declined

FEATURES
- Lead time
- Notification
- Information on parts immobilization
- Transport optimization
- Documents traceability (Quality, certificate, customs information’s, invoicing)
- Transfer of responsibility
END TO END VISIBILITY – BLOCKCHAIN BASED SOLUTION

ARCHITECTURE & BENEFITS

BENEFITS

- Fully Integrated
- Zero Reconciliation Costs
- Streamlined dispute Resolution
- Encryption
- Access control
- Key Management

ARCHITECTURE

NETWORK

Tier 2+ Supplier
3rd Party Application
Tier 1 Supplier
3rd Party Application
3PL
3rd Party Application
Freight Forwarder
Industrial Customer
3rd Party Application

Blockchain Infrastructure

3rd Party Application
Financial Institution
Customer
Aftermarket Customer
3rd Party Application
Maintenance
3rd Party Application
Customs

APPLICATION LAYER

User Interface
Network Admin

PERMISSIONNING LAYER

Encryption Key Vault

MIDDLEWARE LAYER

Rest API & Connectors

CORE BLOCKCHAIN

Blockchain Infra (nodes, Smart Contracts)

ARCHITECTURE & BENEFITS

QUICK DEPLOYMENT

DATA PRIVACY

HIGH SCALABILITY
DAHER AEROSPACE AND AUTHENTICITI

CASE STUDY

Press Release

San Francisco, California, USA, April 8, 2019 – An open blockchain application platform for the aerospace industry has been developed through a collaboration of Daher’s Silicon Valley-based innovation program, called Armstrong by Daher, and Authenticiti, a start-up that offers enterprise-grade blockchain infrastructure through a simple cloud-based service.
CHALLENGE

THIS RESULTED IN PROBLEMS SUCH AS:

- Manual reconciliation and potential for error from duplicates and outdated information
- Limited and static data sharing with customer and partners via EDI - $50-$150k per EDI connector
- No real-time alerts and delayed ability to respond to critical events
- Rejected shipments due to missed QA documents locked up working capital
- Extended DSO due to manual consolidation of materials needed to invoice a customer
DEPLOY

Configure machine image for network requirements.

Upload to secure, shared repository.

Download machine image and deploy to host.
INTEGRATION

Assess source system API documentation.

Develop connectors to ingest data on-chain.

Middleware Services

Blockchain Infrastructure & Encryption Mechanism

Front-End Application

Ingest

Secure

Visualize

Authenticiti Platform
EXTERNAL DATA STANDARDIZATION

To reduce on-boarding lead-time and application integration complexity, we use a templatized strategy:

**Integration Server**
- Same template used for all additional integrations (i.e. SAP, Netsuite, GT Nexus etc.).

**Standard Connector Suite**
- Connectors for standard transactions. These are used for each additional integration out of the box.

**Custom Connectors**
- Custom transactions and fields pulled from external systems are visualized on a self-serve interface for non-technical users to map field relationships.
- Users simply select the system, the table or transaction and the field from multiple systems to map together.
- Mapped fields/tables generate custom connectors to eliminate duplicates going forward.

80% of Integration Effort

20% of Integration Effort

Self-Serve Field Mapping
DEFINE APPROVAL LOGIC

Determine process map for use case.

Map approvals to actions and triggers.
CREATE SMART CONTRACTS

Develop smart contracts to facilitate workflow automation based on pre-determined actions and triggers.

Map user identity authorization to smart contract logic.

Deploy smart contracts.
CUSTOM WORKFLOW AUTOMATION

Features
• Translate business logic into automated rules
• Leverage multi-system data
• Encrypted permissions
REAL-TIME ALERTS

Features

- Configurable alerts to inform stakeholders of SLA infractions in real-time
AGGREGATED SUPPLY CHAIN DATA

Features

• Aggregates critical supply chain data from integrated systems in real-time
• Eliminates manual reconciliation of excel spreadsheets
• Eliminates limited EDI connectors
**BREAKING DOWN THE SILOES**

By eliminating application siloes and automating approval logic for payment – Authenticiti provided real-time visibility and unlocked $7M in annual savings.

- Automatic reconciliation and real-time data feeds for production and logistics stakeholders with no duplicate fields or entries
- Real-time supply chain alerts based on pre-defined triggers
- Elimination of EDI connectors and automated data sharing with partners based on pre-defined triggers
- Digitized QA documents auto-mapped to individual parts
- Faster invoicing from consolidated documents and required data
- End-to-end immutable data audit trail of events to resolve disputes

**API & Connector**
Ingest data from external sources

**Blockchain Infrastructure**
Standardize, secure and encrypt data

**Architecture**

**Containerized Infrastructure**
Packaged in a pre-configured container for rapid deployment to enterprise IT environments
DISPUTE RESOLUTION

Purpose
• Integrate relevant systems to aggregate critical data
• Automate workflows for:
  • PO conformity check & executability
  • VMI inventory replenishment
  • E-Billing upon delivery
  • FAE invoice generation for parts
  • Exception handling logic for dispute resolution

Value
• ~$40m working capital unlocked per year
• Lead time reduction from 60-100 days to 1 day
**HOW IT WORKS**

Parent-Child Data Hierarchy

- **Parent** → Purchase Order #
- **Child** → Component Data
- **Child** → IOT Data
- **Child** → Receipt of Shipment
- **Child** → PVL Validations

**Custom Alerts**
CONTACT INFORMATION

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