Cross-Border Paperless Trade by Leveraging Emerging Blockchain & Emerging Technologies

with Dan Weinberger - CEO & Co-Founder Morpheus.Network
Today’s Agenda

• Introduction – The Problems in Global Trade
• Importance of Data Portability to enable Paperless Trade
• Solutions Overview
• Tech Review (Blockchain, IoT, Machine learning, OCR, Systems Integration)
• Global Impact & Sustainability
• Paperless Implementations
• Demo of Paperless Trade with Interoperability of Technologies
• Criteria To Look For Going Forward
“Supply chain inefficiency is the #1 world problem to solve in order to stimulate economic growth. Reducing these barriers to global trade could increase worldwide GDP by USD $2 trillion.”
Lessons Post Covid
Global Supply Chains are only as strong as the weakest link.
What do COVID, semiconductors, globalization and digitalization have in common?

They exposed the fragility of supply chains

- **Disconnected Systems** down supply chain
- **Communication gaps** for supply chain stakeholders
- Inflexible software architecture (if any!)
- Manual and error-prone processes
- Complex, scattered information & communication
- Lack of visibility
- Managing customer demands of speed and reliability
  - **ALL HINDRANCES TO SEAMLESS PAPERLESS TRADE**
Key Issues in Data Management Software

- There is a lack of **interoperability**, **trustworthiness in data**, and limited **data portability**.

- **Lack of communication** between multiple systems, importers/exporters, Chamber of Commerce and Industry and Customs Chamber. **Data Silos**.

- **Manual processes** and **missing trust** in authenticity of documents.

Source: https://www.bvp.com/atlas/roadmap-supply-chain-software#How-big-is-this-market
Digital. Integrated. Automated Global Supply Chains with Portable Data

What is needed?

A binding glue for fragmented data, software systems & stakeholders down the supply chain. Middleware provides intuitive tools to digitize and automate any supply chain.
INTEROPERABILITY

in·ter·op·er·a·bil·i·ty
/ˌɪn(t)ər,əˈpərəˌbɪlədə/  
the ability of computer systems or software to exchange and make use of information.
Solution Overview:
Binding Glue for ALL the Data & Stakeholders

- Data from manual entry, ERP or CSV Import
- Logistics (Ocean, Land (TMS), Air)
- Customs Compliance (eg. BOL, Proforma, EPA)
- Geolocating Handling Points

PAPERLESS FROM RAW MATERIAL to RETAIL or CONSUMER

DIGITAL FOOTPRINT NOTARY SERVICE
RECORDS OF ALL SHIPMENT AND STAKEHOLDER INFORMATION FLOWS
Blockchain Based Doc / Certification Handling

- Fully **automated** management systems to digitize, validate and track certifications

- **Self-service portal**, paired with an integrated document handling database to exchange **immutable** data between importers/exporters and stakeholders with portability into various backends

- **Complete confidence in certificates**: We store a unique identifier on the blockchain creating provenance and trust in data
Blockchain Based Doc / Certification Handling

- Cryptographically **verify ownership** of documents, preventing fraud.
- Blockchain-based **Endorsement Chain** tracks the ownership transfer of each document.
- **Complete confidence** in ownership
IoT Enabling Geofence Triggers

- End-to-end traceability
- 100% visibility and tracking
- 1 device sensing:
  - Geolocation
  - Shock
  - Light
  - Temperature
  - Humidity
Simple Geofence IoT Configuration
BENEFITS OF MACHINE LEARNING IN THE SUPPLY CHAIN INDUSTRY

- Improves Inbound Shipment Capabilities
- Scheduling Maintenance
- Identifying Product Damage
- Streamlining Production Planning
- Optimizes Procurement Management
- Enhances Customer Experience
- Increases End-To-End Visibility
- Improves Demand Forecasting
Optical Character Recognition to Digitize ("OCR")

Extract Dynamic and Actionable data from traditional paper documents.

Optical Character Recognition or “OCR” Integration for FAST, ACCURATE, SIMPLE digitization of physical documents for use in automated workflows.
The Banked & the Unbanked
Leveraging new technologies such as BLOCKCHAIN to connect stakeholders around the world. Critical in 3rd world nations to allow them to transaction.
DIRECT API CONNECTIVITY TO LINKING ECOMMERCE PLATFORMS TO SUPPLY CHAIN EVENTS & AUTOMATION WITH DATA END TO END

REQUIRED SEAMLESS INTEGRATION FROM E-COMMERCE PLATFORMS TO ERPS (SAP, ORACLE, MS DYNAMICS, INFOR) AND LEGACY SYSTEMS IN PLACE (CSV IMPORTS, FLEXIBLE API)
Middleware simplifies the technology integration effort for global supply chain automation.
Tech Stack Criteria Moving Forward

- **Interoperability** is key - Fluid Data Change (eg. Cloud-based, can be deployed in Amazon AWS, Microsoft Azure or Google Cloud.

- **Digital documentation** and signage tools (OCR, uploaders, DocuSign, etc).

- Blockchain backend, for an **immutable verification** trail and queryable data.

- Reporting system with **proactive notices** and alerts on issues.
Global Impact - What is the bigger picture?

The Earth is choking at 400 ppm CO2 with 40 billion tons of CO2 being released into the atmosphere each year. The Paris Agreement limits global warming to 2 C (or below!)

The EU has launched the Green Deal which targets 50% in CO2 levels until 2030 and Net Zero Carbon until 2050 for the block of 27 Nations.

According to the EPA, supply chains often account for more than 90% of businesses greenhouse gas (GHG) emissions.
80% of Sustainability Emissions Are In Your Value Chain
Technology Will Influence Our Future

- Set a technology-neutral standard to report emissions (Interoperable, trusted data sources)
- Collaborative approach - Enterprise/Gov/Organizations - UN SDGs, INATBA’s Environmental goals, Paris Agreement, EU “top down” CO2 emission reduction requirements
- Paperless, Optimized Supply Chain can save the planet
Live Paperless Implementation: Cross-Border Automated Compliance
Live Paperless Implementation: Food Certification System

REVENUE OF $9.2 BILLION USD 2019

TOP 50 LARGEST COMPANIES IN CANADA

23,000 EMPLOYEES
Live Paperless Implementation: Food Certification System

"This system replaces a largely manual process where thousands of regulatory certification and documents from more than 150 suppliers are collected and managed by FCL which all need to be scanned, validated, processed and tracked."

Raymond Gareau
Supply Chain Manager, FCL

Click for more information
Live Paperless Implementation: 1-Click Insurance Certificates

$12.1 BILLION IN REVENUE IN 2021
45,000+ GLOBAL EXPERTS
150+ YEARS IN SERVICE
130+ COUNTRIES OF OPERATIONS
Live Paperless Implementation:
Port Operator API Hub - Automation by Integration (TOS, TMS)

Gulfainer is the world’s largest privately owned independent port operator. Its global footprint spans the Middle East, Europe, and the Americas, including operations in the UAE, Iraq, Saudi Arabia, Lebanon, and the USA.
Demonstration of Technology Interoperability for Paperless Trade
Blockchain, IoT (EMERGING), QR, RFID, ERP systems (LEGACY)
Key Criteria In Tech Systems to Look For

Ease of integrate
No proprietary system, no lock-ins and no need to replace established legacy systems and IT architecture.
The result: Fast setup and minimized switching costs

Trusted data
Blockchain backend for secure data notarization without the hassle of setting up wallets or tokens.
Decentralized data clearing removes a single point of failure and reduces costs of data exchange.

Adaptable
Third-party integrations for diversified solutions and automated end-to-end processes.
Flexible, customizable modular architecture suited to clients of all sizes, verticals and supply chains

AND EASY TO USE!
Morpheus.Network - Core Team

100+ Years of Combined Industry Experience in Supply Chain, information security, global trade, and business development.

DANNY WEINBERGER
Co-founder and CEO
20 years in global trade

NOAM EPPEL
Co-founder and COO
20 years in web development and internet security

ROGER CROOK
Team Lead for Global Logistics
Former CEO DHL, CEO Springboard Capital

KARL MCDERMOTT
Global Head of Business Development
Former SaaS Logistics CEO
Morpheus.Network - Awards & Recognition
THANK YOU!

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