





modum.io AG

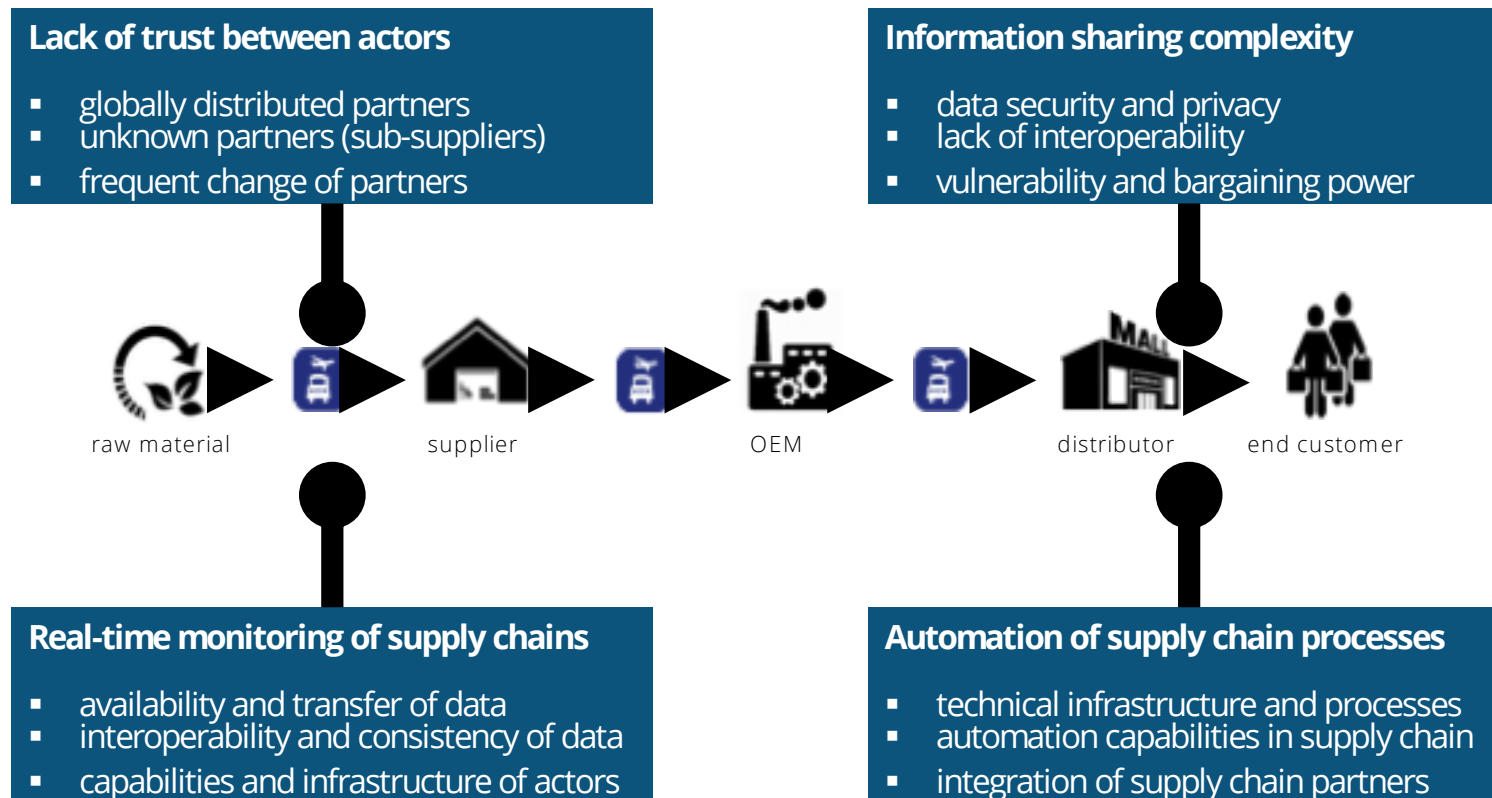
Providing data integrity and authenticity for global supply chain operations

Modum at a Glance



- **modum.io AG** is a fast growing Zurich-based technology start-up with 25 employees located at the Technopark, Zurich's well known technology incubation hub.
- Founded in 2016 by a group of entrepreneurs with backgrounds in technology and pharmaceutical manufacturing, initial concepts were developed with the **University of Zurich's** Communication Systems Group.
- As a first product, modum develops and offers a wireless and digital **supply chain monitoring solution** to measure the condition of parcels in transit in pharma distribution networks enabling **efficient GDP compliance** at high shipment volumes.
- modum is entering the market with **Swiss Post** and **SAP** to deliver an efficient GDP compliant supply chain for the Swiss market.
- The company maintains academic partnerships and government funded research projects with The **University of Zurich** and **The University of St. Gallen**.
- After closing a seed round of CHF 500k in January 2017, modum raised \$13.5 million USD through a token sale in September 2017 to fund mass production of their first sensor and regular operations.

Supply Chain Challenges in a Digital Age



Source: Adapted from Prof. Dr. E. Hofmann, HSG St. Gallen, Institute of Supply Chain Management

The Pharma Market Context



A temperature monitoring solution for last mile pharma distribution

Addressing pharma industry needs

- Good Distribution regulations (GDP) for pharmaceutical products require pharma distributors to maintain temperature conditions within acceptable limits while in transit.
- Distributors must be able to demonstrate that medicines have not been exposed to temperatures that may compromise their quality or integrity and have to inform upon deviations sender and receiver of any shipment.

Closing a market niche

- Today over 200 million yearly shipments occur in the last mile, this volume is estimated to grow above 2 billion in the coming years due to regulatory changes for the shipment of medical supplies.
- State-of-the art temperature monitoring solutions that can be deployed at the parcel scale for last mile shipments do not currently exist.

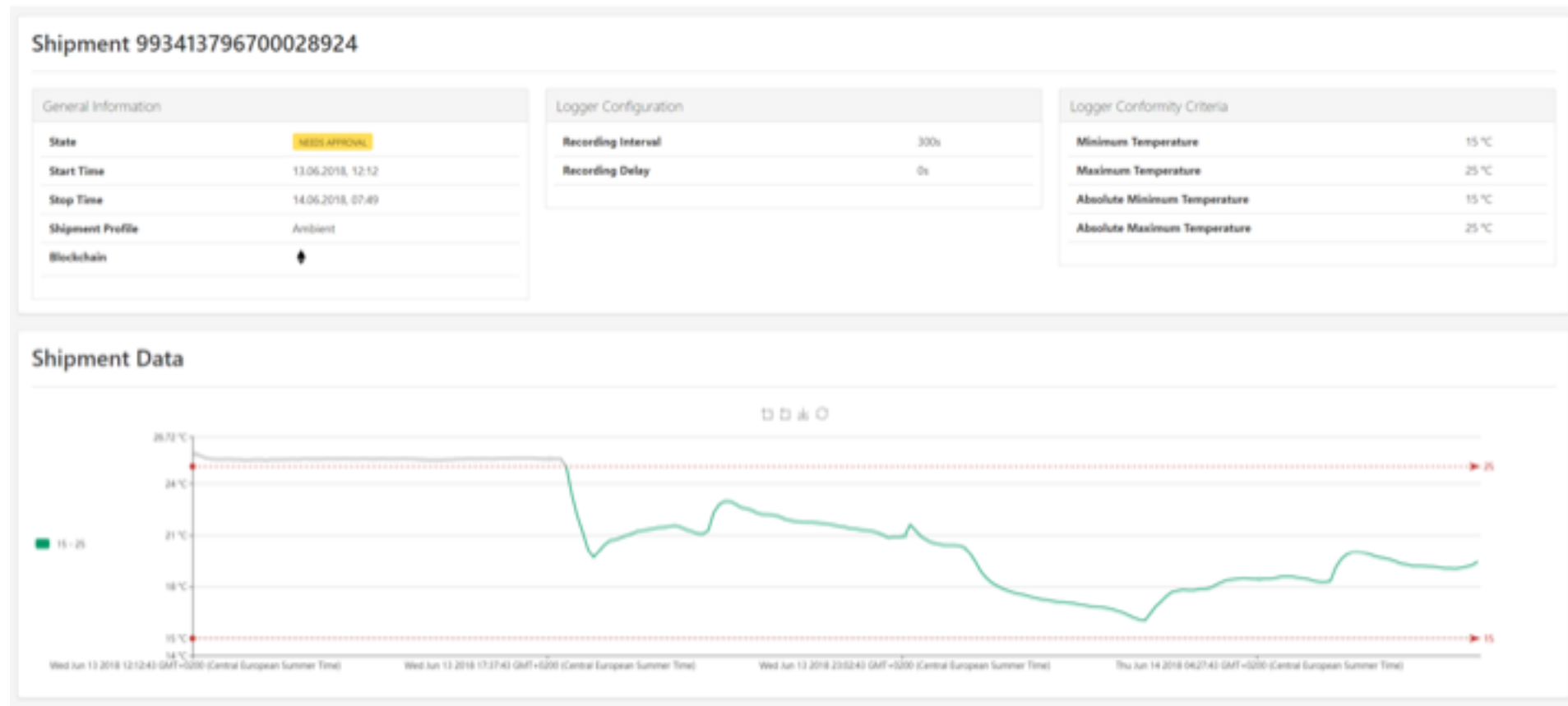
A game changing product

- The modum sensor device has a fully wireless design that enables the quick configuration and readout at high volumes.
- It easily integrates into the commissioning workflow and hand-over processes of logistics providers.
- A fully digital measurement and cloud-based monitoring system, ensuring highly reliant processes and instant notification.
- Secure hardware and blockchain-based data management design provide full data integrity.

Automated Measurement and Interpretation



Data Aggregation of Real Shipment



Network of Trusted Events

3rd Party Ecosystem



Insurance
Claim settlement



Regulator
Audit



Procurement
Supplier Rating



Consumer
Transparency

Access to Trusted Events for the Ecosystem without exposing Private Data

Blockchain



VERIFIED



VERIFIED



VERIFIED



VERIFIED



VERIFIED



Quality, Integrity and Efficiency Assurance



Measure: MODsense



- Convenient pairing of parcels with modum's certified IoT sensors to track conditions during transit.
- Automated and secure read-out of sensors upon arrival.
- Programmable quality and regulatory requirements are automatically validated.

Automate: MODlink



- A secure sharing solution for real-world supply chain events between independent data silos across industries that protects underlying sensitive data.
- Provides access to blockchain-secured data pools in compliance with regulatory requirements.

Optimize: MODsight



- Customized and aggregated analytics insights rooted in real-world evidence and specific data gathered during monitoring processes.
- Valuable predictive tools for business processes optimization that enable the highest and best use of your data.

The 1 Take Away: What is Blockchain?



New
Technology

+



Process
Automation

+



Network-based
Business Models

modum

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