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Rethinking Pharma Supply Chain Processes

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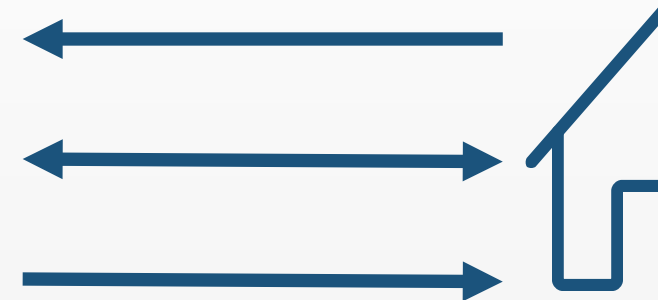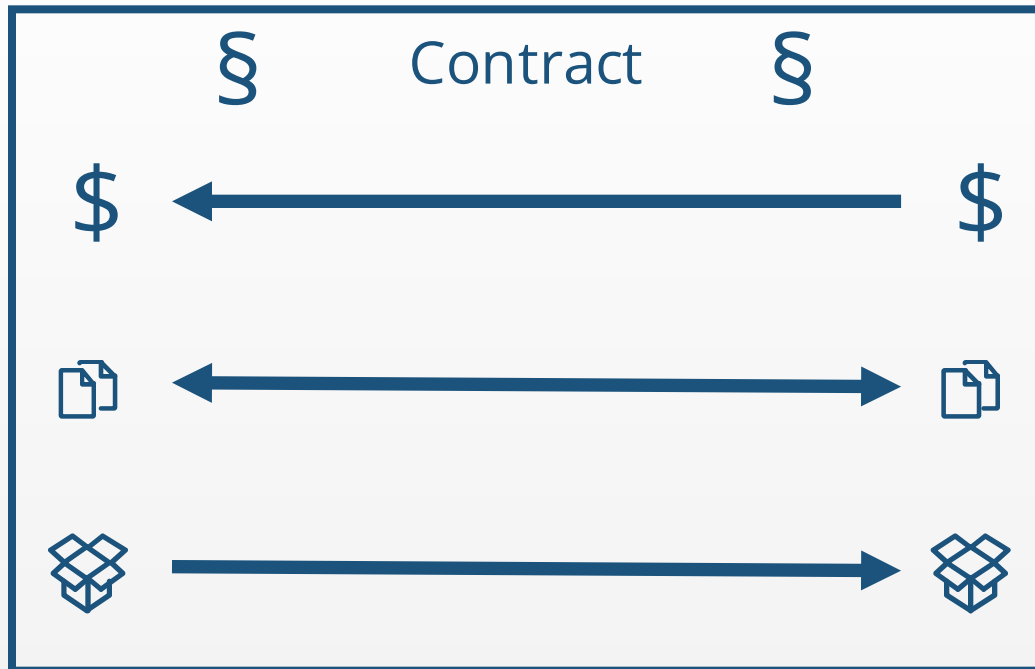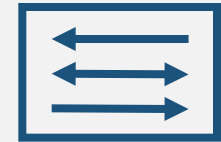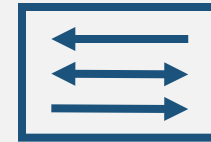
Overview

Modum.io enables substantial cost savings in the pharmaceutical supply chain. Our GDP compliant sensor devices leverage the Blockchain technology to assert data immutability and public accessibility of all data records.

Modum.io is providing a datalogger system which monitors all necessary data during the shipment of medicinal products. The records are transferred to the Blockchain where a smart contract assesses against the product attributes. Using the modum.io technology allows to switch from special logistics services to standard shipment methods.

One Chain of Transactions
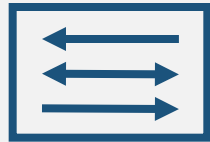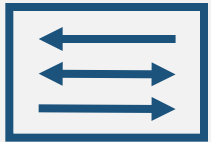
Swiss Pharma Distribution Market

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Pharma Distributor

1 → 60'000 pallets per year

Pharma Logistics Provider

Medical Laboratories

2 ← 2'500'000 parcels per year →
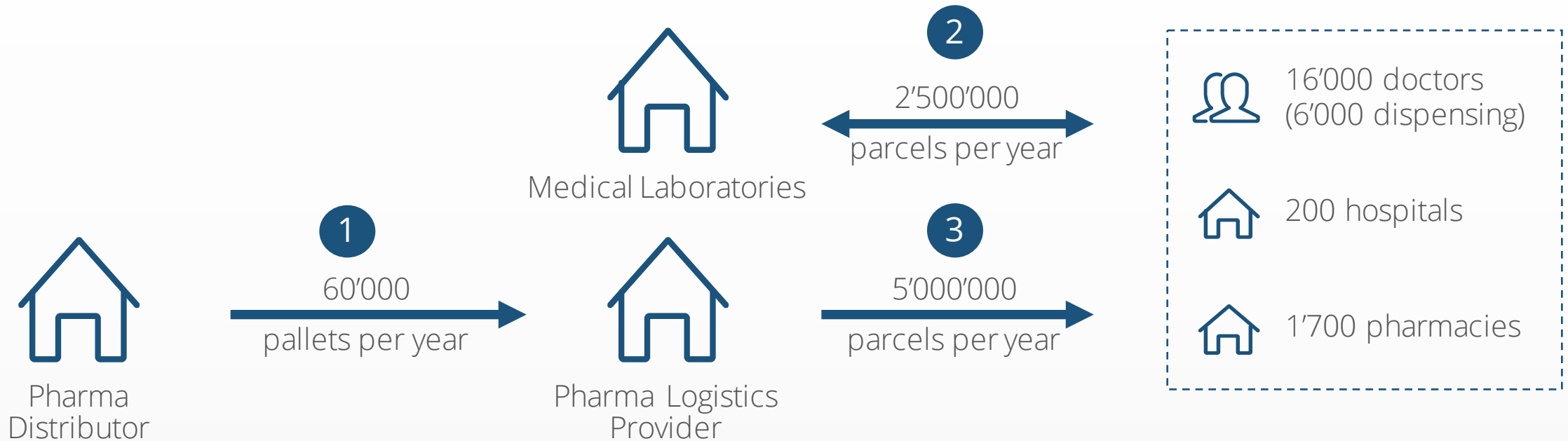
3 → 5'000'000 parcels per year

- 16'000 doctors (6'000 dispensing)
- 200 hospitals
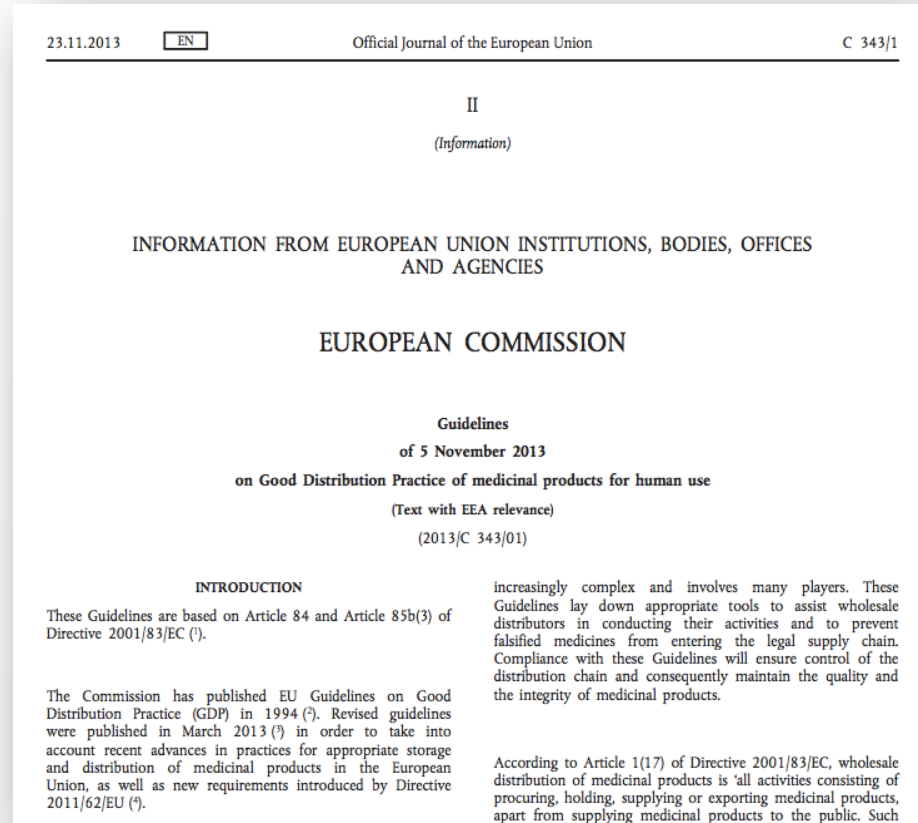- 1'700 pharmacies

Every year there are more than 5 Mio. shipments containing drugs or medical samples in Switzerland which have to comply to GDP standards. The average shipment costs of a fully GDP compliant parcel are up to CHF 60.- per parcel.

We target solely in Switzerland a CHF 300 Mio. market with a cost cutting case potential of up to 1/3 of the whole market volume.

Regulations Changed Recently

23.11.2013   EN   Official Journal of the European Union   C 343/1

II

(Information)

INFORMATION FROM EUROPEAN UNION INSTITUTIONS, BODIES, OFFICES AND AGENCIES

EUROPEAN COMMISSION

Guidelines
of 5 November 2013
on Good Distribution Practice of medicinal products for human use
(Text with EEA relevance)
(2013/C 343/01)

ⓘ The distribution of medicinal products for human use is highly regulated.

ⓘ Swissmedic enforces these regulations to every certified pharma distributor.

👍 Those rules have recently changed and opened up an unique opportunity.

GDP: EU regulation "Good Distribution Practice of medicinal products for human use" (2013/C 343/01)

The Opportunity

New regulation effective as of January 1st 2016

The new GDP regulations for medicinal products are effective since January 1st 2016 enforced with the AMBV* from June 10th 2015. It is now an obligation to report any deviation such as temperature to the distributor as well as the recipient of the affected medicinal products.

No adequate solution on the market

Until now there is no cost effective solution on the market and pharma companies order expensive special services from logistic providers, which are in many cases an overkill from a cost and regulation point of view.

* AMBV: Arzneimittel-Bewilligungsverordnung - Swiss Enforcement of EU Regulation

Combining Blockchain and IoT

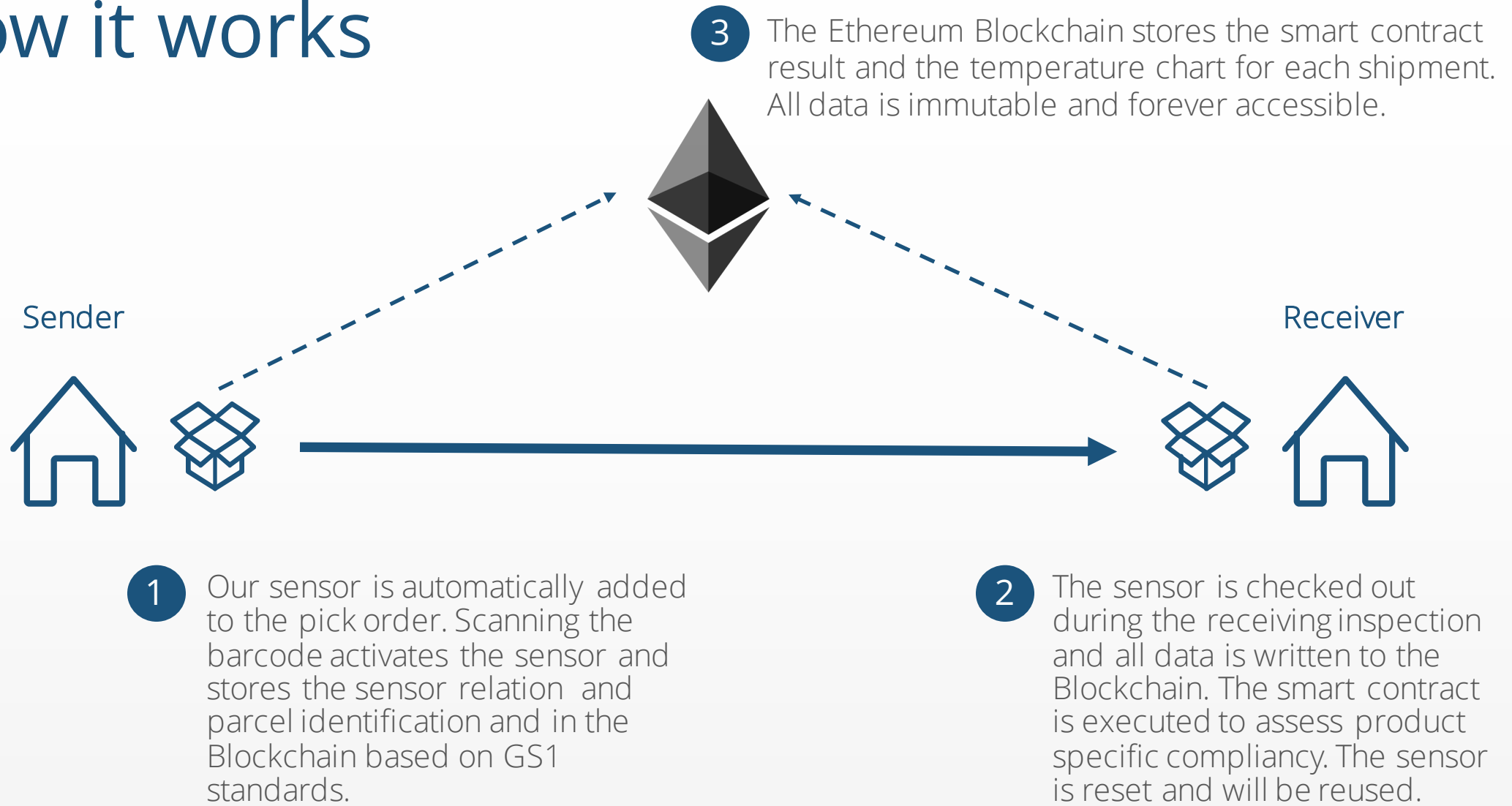### Tracking with cost effective sensors as a service

Modum.io is monitoring all necessary data during the transport of medical products by combining cost effective IoT sensors with the Blockchain technology. Upon delivery a smart contract is executed, to evaluate compliancy. Once saved the data can not be changed.

Cost saving up to 75% on logistics

Our solution allows to select logistics services on a risk based approach with full compliancy of the GDP regulations. Hence reducing the logistics cost up to 75% by using cheaper shipping methods and immutably recording all temperature data points.

How it works

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3 The Ethereum Blockchain stores the smart contract result and the temperature chart for each shipment. All data is immutable and forever accessible.

Sender

Receiver

1 Our sensor is automatically added to the pick order. Scanning the barcode activates the sensor and stores the sensor relation and parcel identification and in the Blockchain based on GS1 standards.

2 The sensor is checked out during the receiving inspection and all data is written to the Blockchain. The smart contract is executed to assess product specific compliancy. The sensor is reset and will be reused.

Experienced and Hungry Team

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Malik El Bay
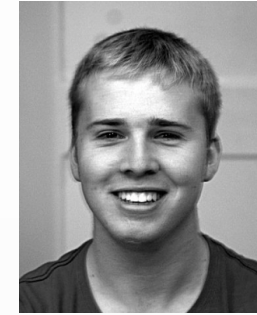Bachelor of Science, ETH Zurich

A serial entrepreneur and visionary mind, who passionately believes that technology is the way to make the world a better place.

Tim Strasser
Cand. Master of Science, UZH

Student in business informatics with startup experience and knowledge in graphical visualization methods of sensor data in IoT services.

Andreas Knecht
Cand. Master of Science, UZH

Student in business informatics and keen on smart devices and Blockchain technology – coded a fully decentralized open source skype clone.

Dr. Thomas Bocek
Doctorate University of Zurich

A researcher at the *University of Zurich* in communication systems, protocols and networks. Eon decentralized and peer-to-peer systems.

Marc Degen
Executive MBA, University of St. Gallen

A digitalization expert, creative mind and visionary, who passionately puts technology to service for simplifying daily life. Simple, pragmatic and digital.

Pilot 1.0 Results

- 95% success rate
- 10'000 data points analyzed
- 17 Sensors monitored 50+ deliveries

Löst modum.io das Temperaturüberwachungsproblem?

5 von 5 Personen haben diese Frage beantwortet

1	Ja	4 / **80%**
2	Weiss ich nicht	1 / **20%**
3	Nein	0 / **0%**

Achievements

Kickstart Accelerator

Modum.io is proud to be amongst the participating 30 startups selected from 900 applicants in this acceleration program. Great partners and experienced mentors will guide modum.io to achieve high growth.

Venture Kick Grant

Modum's venture pitch presentation convinced the top-class jury. The venture kick is supporting the development of modum's business idea with CHF 10'000 and additional support.

Venture.ch Top 25 Business Ideas

Modum's business idea was awarded by Switzerland's premier startup competition (backed by ETH Zurich, Swisscom, UBS, Swiss RE and many more).

Runner up – ETH Entrepreneur Club Award 2016

Modum was invited to the finals of the ETH Entrepreneur Club Award. Our business idea convinced the highly qualified jury to give us the second place award.

Milestones H2/2016

- Kickstart Accelerator: Future and Emerging Technologies , *Q3, 2016*
- Pilot 2.0 Monitor 500+ shipments, *Q3, 2016.*
  - Cross border pilot in Middle East and EU pilot, *Q3, 2016.*
- Start alignment with current distribution processes, *Q3, 2016.*
- Hardware design of market-ready product is finalized, *Q3, 2016.*
- Preparation of national and global roll out, *Q3, 2016.*
- Decentralized Ecosystem finalized, *Q4 2016.*
- LOI of 1st customer signed, *Q4 2016*
- Software certification and hardware qualification finalized, *Q4, 2016.*
- Investment round to finance the global roll out, *Q1, 2017.*
- Launch modum.io in Swiss market, *Q1 2017*