Pier 15:
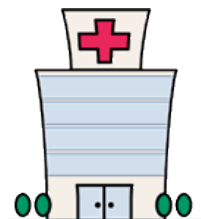
Breaking Good

Combating the growing problem of counterfeit drugs
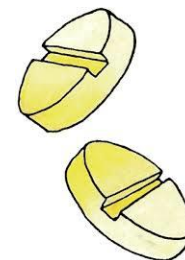
A complex problem

1.

2.

3.

Solution 1

Design a better, cheaper, and easier to use analytical tool for multiple use scenarios

Capillary electrophoresis

Benefits

- ✓ More efficient than other procedures
- ✓ Increased speed of analysis
- ✓ Lower solvent consumption
- ✓ Decreased size
- ✓ Lower cost

ECB: Our upgrades

Web-based wizard training tool

Lower costs

Replacement of injection pump with manual feed

Lower cost / size / weight; simplified process

Automated analysis of results

Remove need for expert analysis

Capacity for automated data upload to web

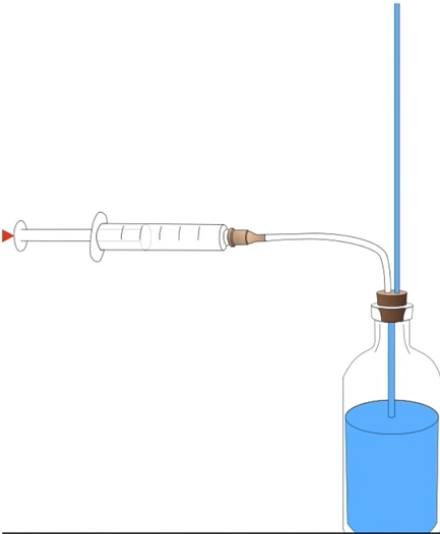Increased access to / trust in data validity

Simplified, versatile interface

Testing sequence:

Step 1 | Step 2 | Step 3 | Step 4 | Step 5 | Step 6

Step 1: buffer

Insert a vial with a buffer and connect it. Press the syringe so it moves one bar and keep it like that for 120 seconds.
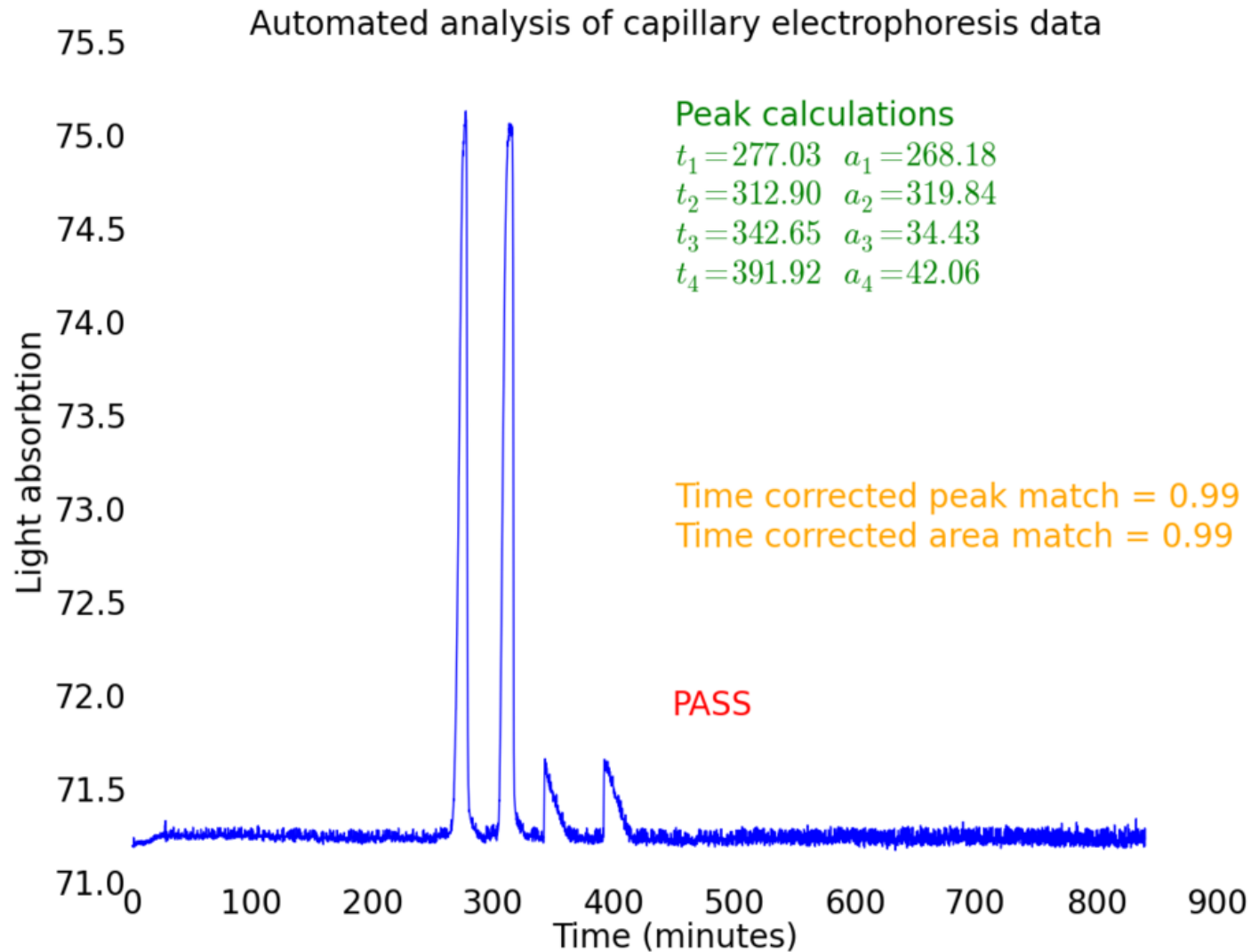
00:00 -00:22

120 seconds

Start the 120 second countdown

Abort   Next step

THE PorT
Pier 15: Breaking Good

ecb SwissQuality
www.phermalp.ch

Automated analysis

Automated analysis of capillary electrophoresis data

Peak calculations

$t_1 = 277.03 \quad a_1 = 268.18$
$t_2 = 312.90 \quad a_2 = 319.84$
$t_3 = 342.65 \quad a_3 = 34.43$
$t_4 = 391.92 \quad a_4 = 42.06$

Time corrected peak match = 0.99
Time corrected area match = 0.99

PASS

Solution 2

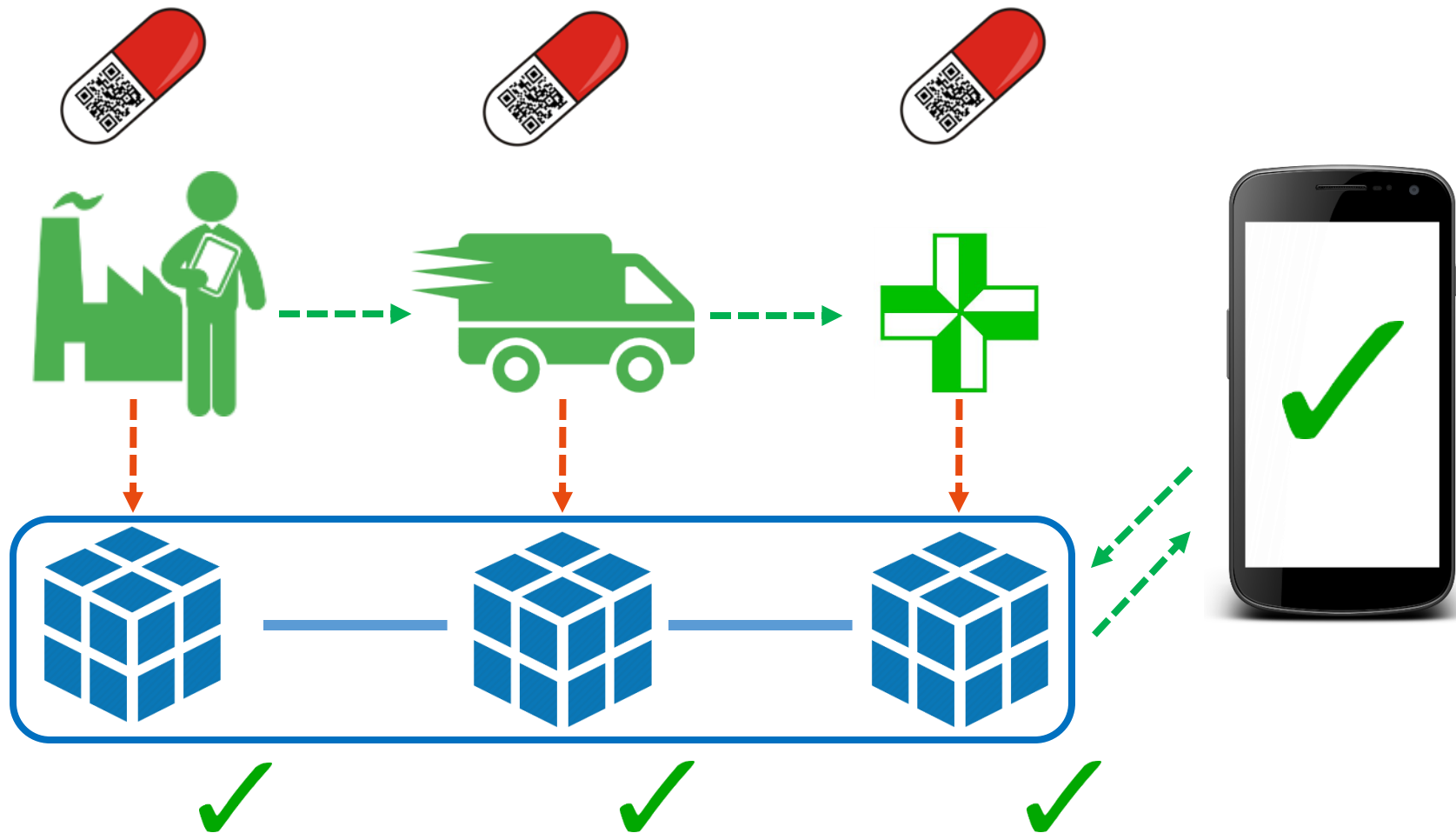Verify the authenticity of medicines from source to consumer

Blockchain-based verification

Benefits

- ✓ Unbreakable "trustless" verification system which lies at the core of modern cryptocurrency (Bitcoin, etc.)
- ✓ Allows any user to verify where and by whom a product was handled at critical points in the product's history
- ✓ Trustworthy data for industry, national authorities, international organizations, retail endpoints, and the consumer

The system at a glance

1 + 2 =
Solution 3

High-confidence global drug distributed data aggregation system

A more holistic approach to data

Target users

Consumers, national regulatory authorities, suppliers, and policymakers
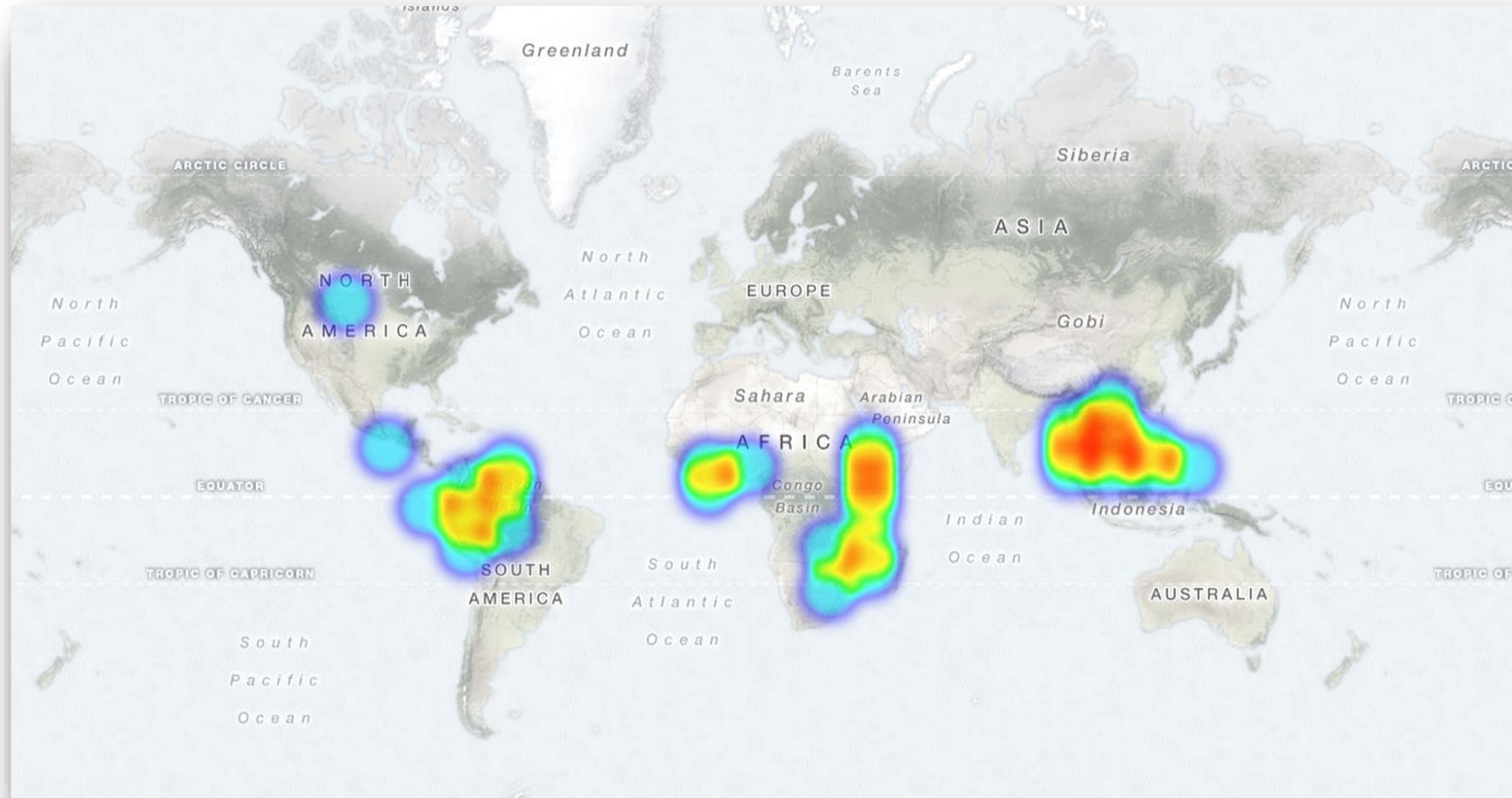
Key components

- **Multiple-source global counterfeit drug surveillance network**
- Automated aggregation of pass/fail data from two verified sources - chemical analysis (Solution 1) and blockchain verification system (Solution 2)
- Enables collection of data from multiple sources, including end-users / patients
- Provides information by medicine, location, and also information on source of the incidence report
- Flexible and customizable – responsive to organizational / individual needs

The power of reliable data

Thank you