

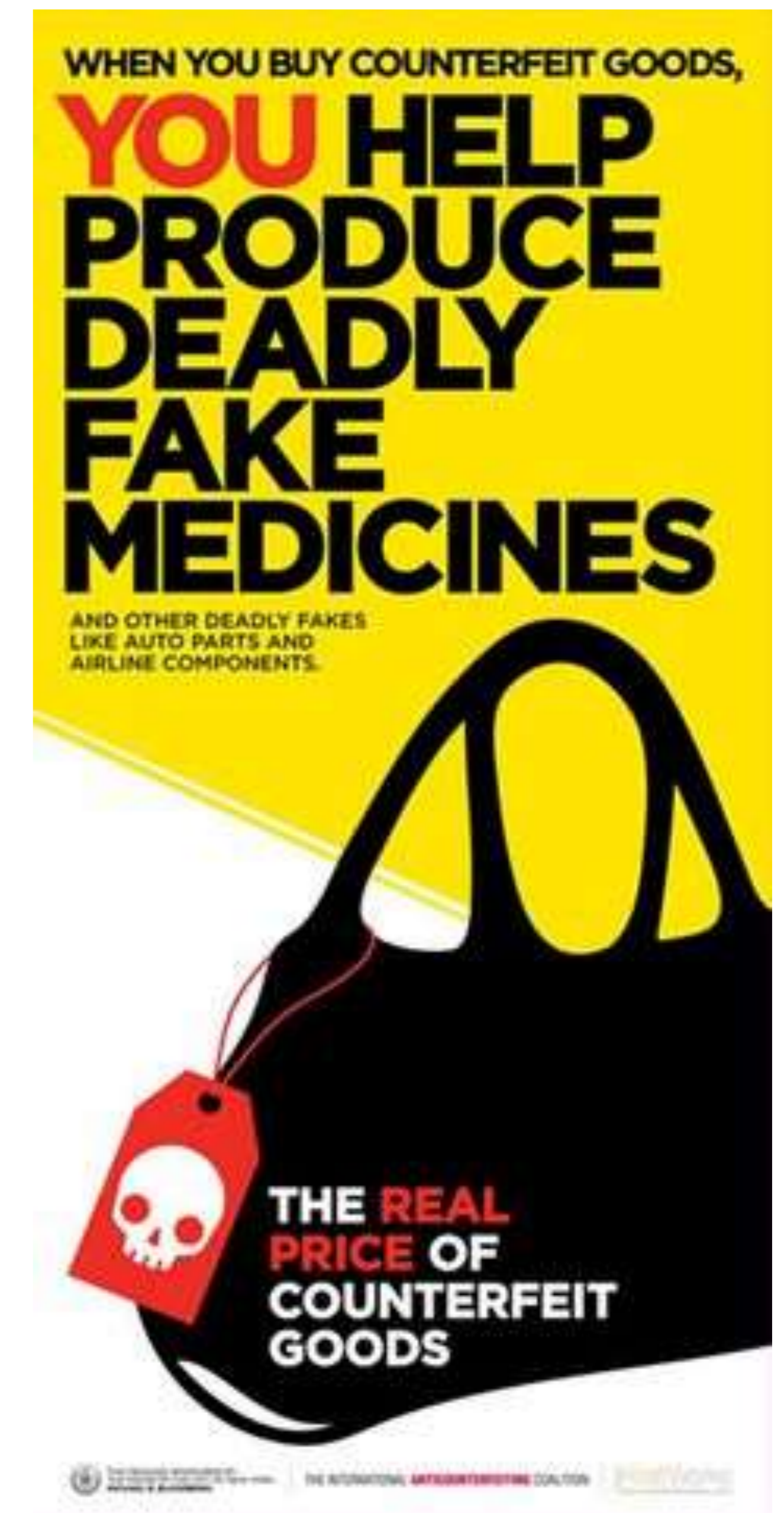
FakeFinder

Anti-Counterfeiting Solution

Executive Summary

Counterfeit Products are epidemic in all product categories, but - unlike luxury goods - fakes and counterfeit pharmaceutical products endanger lives, either through their lack of active ingredients or the inclusion of harmful substances. (The WHO estimates that over 30% of pharmaceuticals in developing countries are fake).

In this document, we would like to request your support for a field study of our latest mobile visual forensics application that is intended to provide quick, reliable and cost effective identification of counterfeit pharmaceutical goods.



Significance Counterfeit Pharmaceutical Products

It is estimated that Counterfeit Products in general account for 10% of the global trade, with damages in Germany alone surpassing 30bn Euros. Christopher Viehbacher, CEO of Sanofi, estimates that 10% of all medicine traded globally is fake, with the global counterfeit drug market estimated between 75 and 200bn USD.

“Enforcement officers would like to be able to identify fake drugs on the spot. But sometimes it is impossible to do so without laboratory analysis”*

Experts state that in African countries, the percentage of counterfeit drugs is considerably higher than that of genuine products. Fake products cause economic* damage through loss of labour, revenues and taxes and potential loss of lives in case of pharmaceuticals or products relevant to security.

Source: <http://www.who.int/bulletin/volumes/84/9/06-010906/en/>



Challenge

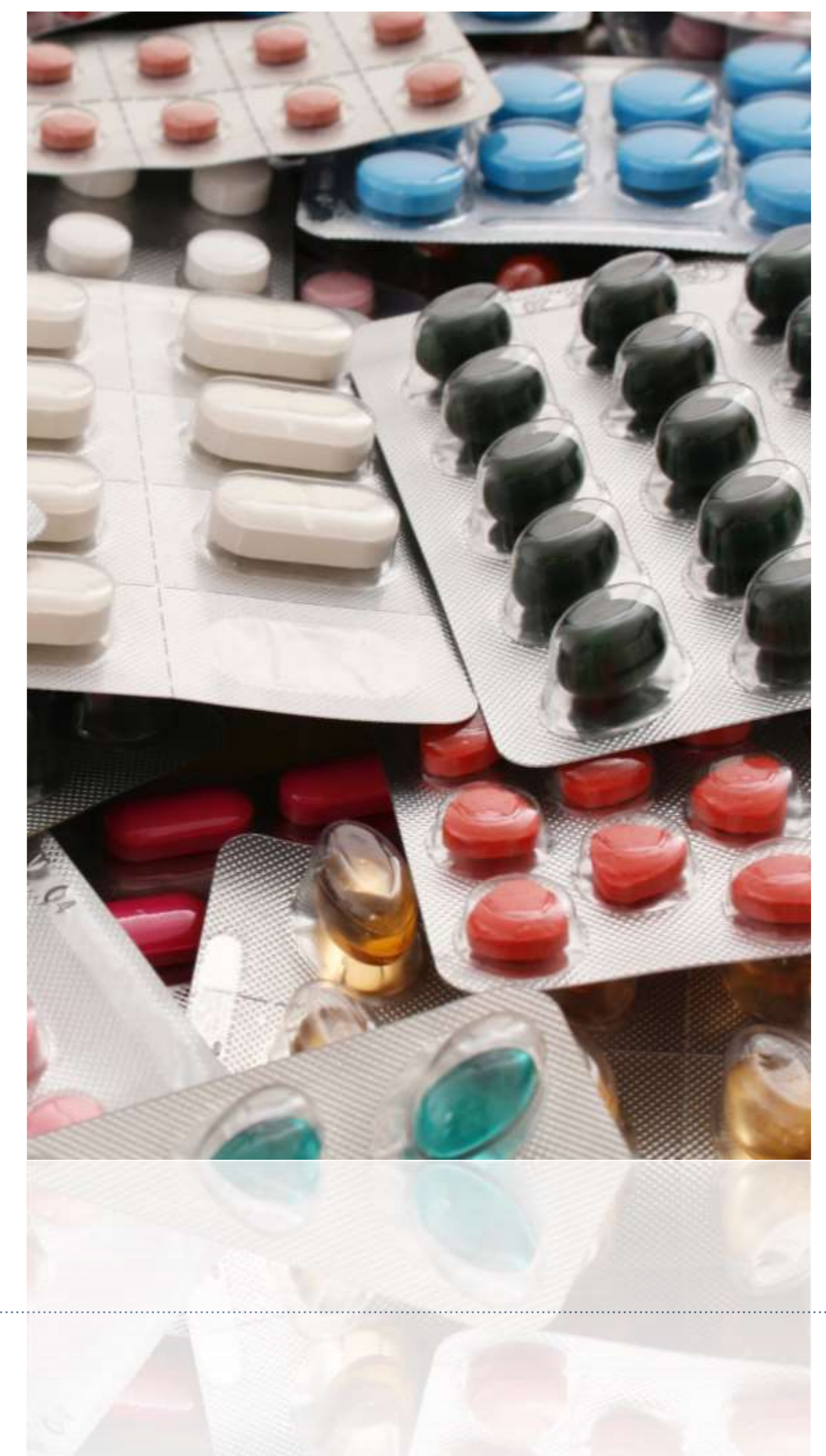
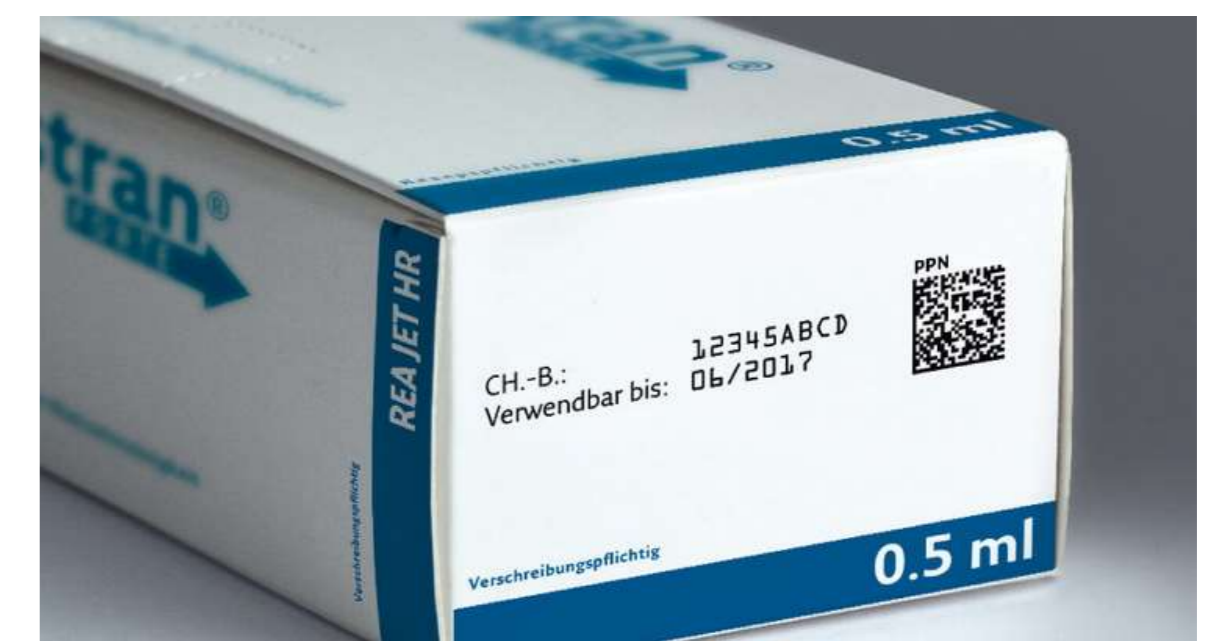
Limitations of securPharm

The EU demands a solution for protection against falsified medicines to be available throughout the EU as of 2018. The initiative "securPharm" by the pharmaceutical and pharmacy associations is currently being tested in Germany. Its rollout is planned for 2018.

securPharm requires new serial numbers to be printed on the packaging in the form of a Data-Matrix-Code. As early testing has shown, manufacturers have immense difficulties with the generation of those serial numbers. Building a central database, to which all nationwide wholesalers and pharmacies have access to, has also proven to be difficult.

Even if all these problems are eventually solved, the system still won't be invulnerable. Unless the multi-party distribution chain is carefully monitored, the possibility of distributing forged items with duplicated codes will remain a real threat to the success of the initiative*.

Source: http://pharmaceuticalcommerce.com/manufacturing_and_packaging?articleid=26733



Solution - FakeFinder

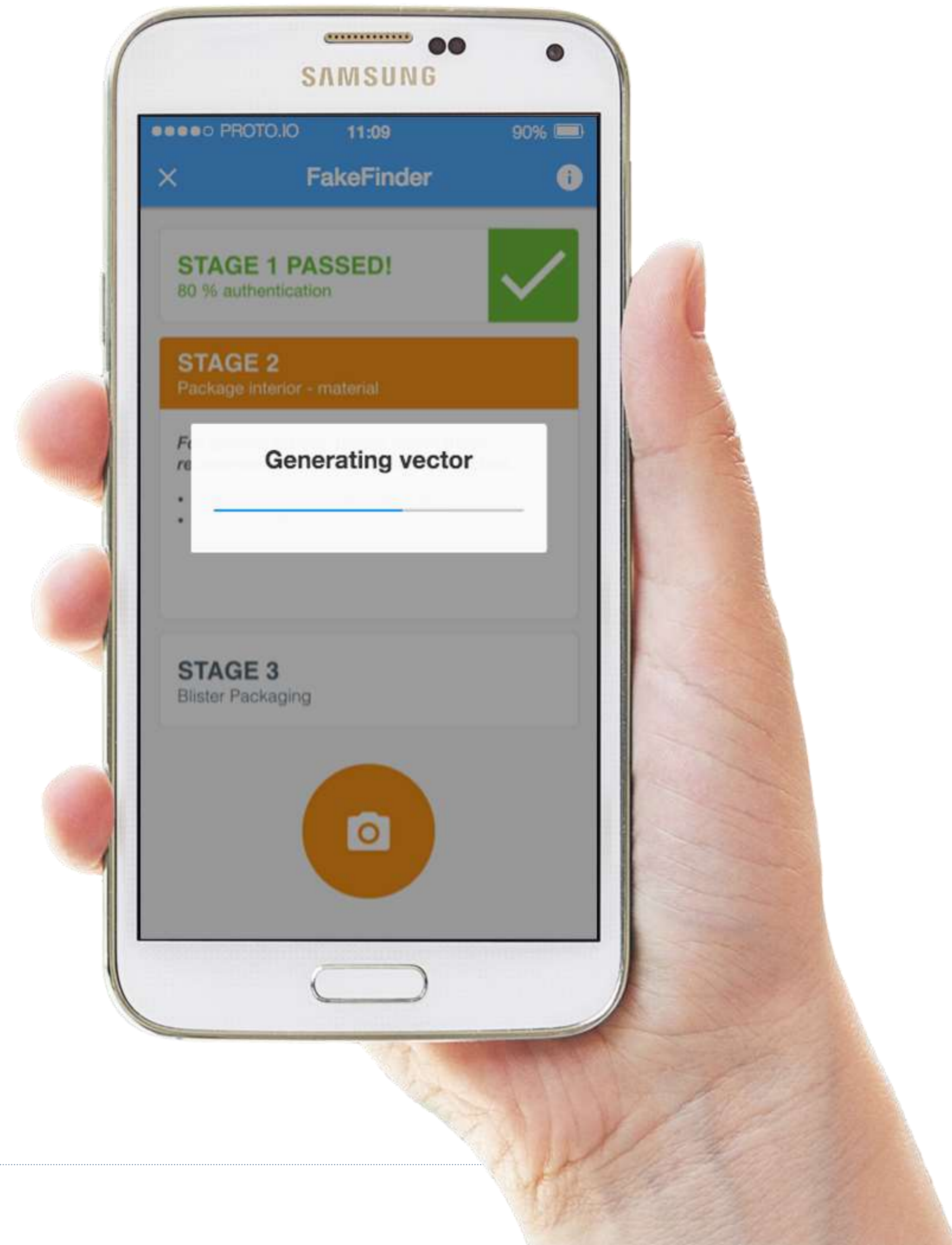
FakeFinder is an effective Security Supplement of securPharm.

The solution makes use of optimized image recognition software for smartphones.

Product agents, pharmacists or doctors do not need to acquire any new reader hardware, but can use their standard smartphones, in combination with a free app, instead.

See showcase:

www.emundo.de/fakefinder



Solution - FakeFinder

Objectives

A mobile and cloud-based technology to assist product agents, pharmacists, doctors and patients worldwide to detect potentially harmful falsified medicines easily. Additionally, manufacturers are able to view detailed analytics and the geographical distribution of falsifications and their medicines in general.

Technology

A Visual forensic approach, consisting of a hybrid smartphone app and a cloud database. Since every printing machine has unique characteristics, our solution uses the printing machine's fingerprint on the package.

Analysis is conducted via the cloud database using **multistage cachet vectors with discrete wavelet transformation**.

Benefits

The approach can be implemented quickly, allows for rapid ROI for early adopters. No modification of existing packaging necessary, low investment risk.

Deliverables

Proof of concept

Solution for reliable identification

Wavelet Technology

Every printing machine generates an identifiable "fingerprint" during the printing process. The wavelet technology method allows the identification of packaging that was printed with unauthorized printing machines and, therefore, potential fakes.

The challenge of this approach is that the analytical image recognition is executed on

MULTISTAGE CACHET VECTORS

For the packaging identification, various print attributes of the box and the blister pack are automatically transferred to the smartphone app as a compressed Cachet Vector.

It is planned to protect the underlying technologies and intellectual properties by patents.



Request for
joint Field Test
Verification

Collaboration

Field Research Partners & Scope

We are looking for your support to validate our concept and develop functional prototype versions of our mobile apps and cloud solution to achieve a recognition rate for falsified packaging close to 100%.

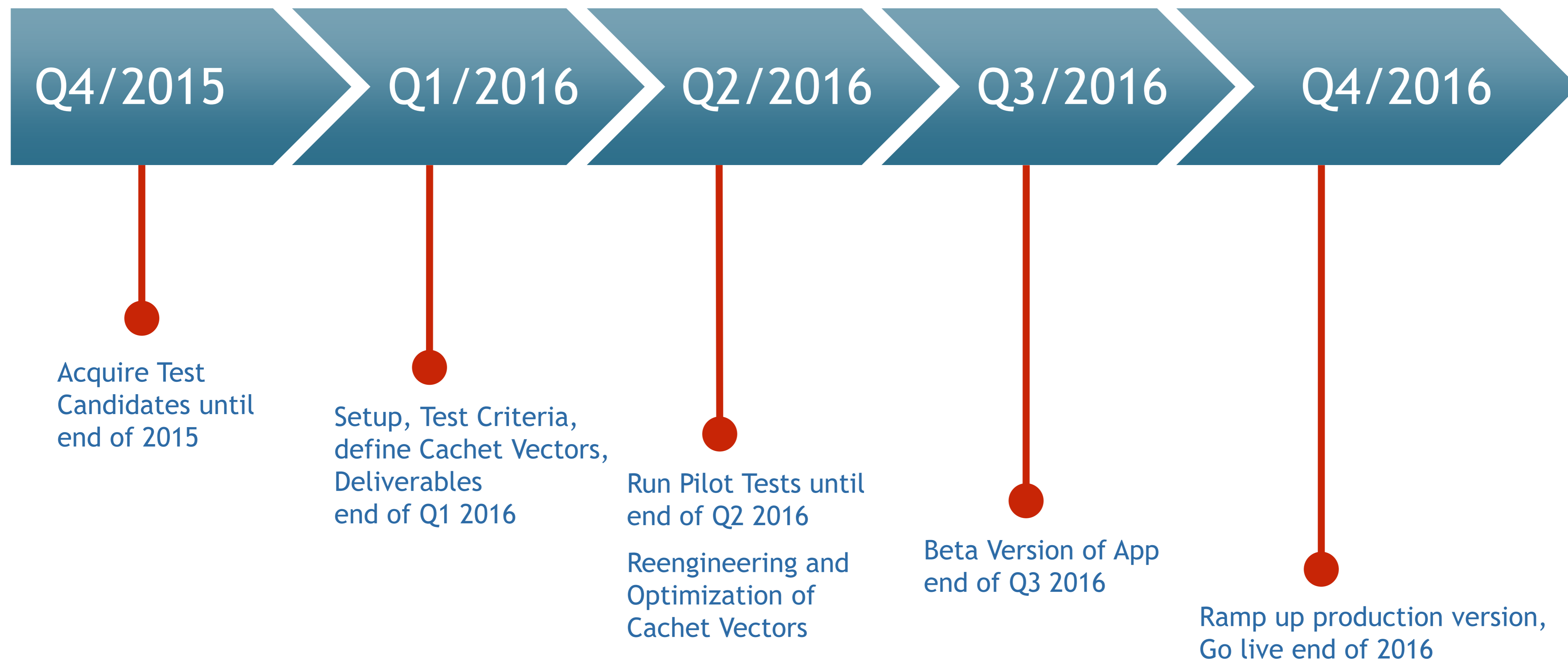
Required

- Dedicated contact person in your organisation throughout the evaluation timeframe
- Original and fake / fraud packages of several products
- Specific requirements for our software solution that are valuable to your company
- Remote or onsite participation in short monthly project reviews



Collaboration

Estimated Field Test Timeline



About eMundo

Software Projects and Consulting

eMundo is an IT venture, founded in the year 2000 in Munich, with over 50 employees at branch offices in Frankfurt, Ingolstadt and Salzburg/Austria. With our exceptional team we develop challenging enterprise systems focusing on "Mobile First" and the "Internet of Things".

We implement individual software solutions, such as a novel iPad app for private wealth management, which we developed for German private banks; or solutions for pharmaceutical wholesaler and mobile Point-of-Sales apps for Pharma Sale Agents (Abbott).

Our work ethic is based on agility, skill, integrity and the passion for sustainable software solutions, which inspires customers and employees.

The Donors' Association "Stifterverband für die Deutsche Wissenschaft" has awarded eMundo for its R & D efforts with the "Innovativ durch Forschung" seal.



We appreciate your support and
will gladly answer any questions
you may have.

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