



SToP Project eNewsletter

August, 2008

The high quality of fakes often makes identification impossible without technical expertise.

(Taxation and Customs Union, 2007)

SToP eNewsletter is issued quarterly. Each edition contains a short overview of the project achievements and information on related topics.



REQUIREMENTS FOR A PHARMACEUTICAL SUPPLY CHAIN

This section of Newsletter outlines the identified main requirements for a pharmaceutical supply chain:

Business objectives

- The system must contribute towards increased patient safety. (Primary)

- The system must contribute towards discouraging counterfeiters. (Primary)

Object of verification

- The system authenticates medical sales units in a very reliable way. (Primary)

- The system must work with all kind of pharmaceutical primary and secondary packaging including. (Primary)

- The system must be able to authenticate all sales items in pallets and cases at once. (Secondary)

Level of automation

- Encoding / reading speed of the security features must be at least 250 but up to 400 units per minute. (Primary)

Location

- Products can be authenticated in the drug manufacturer's premises, in partner companies' premises, and by customs. (Primary)

- Products can be authenticated in point of sale and by the patient. (Secondary)

Process and environment

- The system must work with metal parts in the equipment and environment. (Primary)

- The security features must resist mechanical stress and high temperature occurring during manufacturing, packaging and distribution. (Primary)

- The required lifetime of the security feature on packaging materials is shelf life plus one year. (Primary)

Output format

- The output data must clearly state if an article passed the verification check or not. (Primary)

- The output data must state the compliance relevant data, e.g. EPC, batch number, and expiry data (note: legislation in the EC has yet to decide what this data is). (Secondary)

Other

- The system must know the allowed sales locations of products. (Secondary)

- The verification process must take less than one hour. (Primary)

- The system must display and forward e-pedigree. (Primary)

FIELD TRIAL – PHARMACEUTICAL INDUSTRY CASE

SToP is conducting trials in the pharmaceutical industry to demonstrate the verification of pharmaceutical packages in a real-world environment. The trials will take place in pharmacies to ensure that products are verified in an environment very close to consumers. Two pharmacies have been selected as trial venues and confirmed their willingness and interest to participate in the trials. The pharmacies are Stern Apotheke in St. Gallen, Switzerland and Stadtapotheke in Alpirsbach, Germany.

In addition to the pharmacies, the trials are supported by Novartis Pharma AG. The pharmaceutical manufacturer has produced placebo pharmaceutical bottles for the SToP project to be used in the trials (c.f. figure 1). Each bottle is equipped with two security features, namely an RFID UHF Gen2 tag and a DataMatrix code. For each bottle, the same unique number is encoded in both features. Novartis Pharma performed extensive hardware tests to ensure that the features encode the appropriate numbers and that those could be successfully read.



Figure 1: Sample placebo bottle for the trial

Two pharmacy use cases will be carried out in the trials, namely goods receipt and goods dispensing. The detailed processes involved in the two use cases were explained and demonstrated by the two pharmacies (c.f. figures 2 and 3 respectively).



Figure 2: Setup for the goods receipt use case



Figure 3: Snapshot of goods dispensing

Several automated checks will be carried out in each use case in order to observe how the system and the users react to each of the test cases. Example checks include order completeness, soundness of both features, unique number validity, matching unique numbers on both features, and valid status of the bottles (unexpired, not previously sold, etc). When possible, we will perform three different tests variants, namely using (1) only the DataMatrix code, (2) only the RFID tag, and (3) both features, while recording the time required for each variant. The users are expected to give valuable feedback that will result in recommendations for the pharmaceutical industry on future security feature applications.

SToP DISSEMINATION ACTIVITIES

PAST ACTIVITIES

Book publication:

- *Countering Counterfeit Trade: Illicit Market, Best Practice Strategies, and Management Toolbox*
Authors: T. Staake, E. Fleisch
Springer, Berlin
<http://www.springer.com/computer/communications/book/978-3-540-76946-0>

Research papers:

- *Anti-Counterfeiting Based on Supply Chain Proximity*
The research paper will be available in Jens Strueker, editor, 4th European Workshop on RFID Systems and Technology (RFID Sys-tech), 2008. Freiburg, Germany, June 10-11, 2008
<http://www.rfid-systech.org/>
Authors: Ali Dada and Carsten Magerkurth
- *RFID-based Anti-counterfeiting Utilizing Supply Chain Proximity*
at the 2nd International Workshop on RFID Technology (IWRT)
<http://www.iceis.org/iceis2008/workshops/iwrt/iwrt2008-cfp.html>
Authors: Ali Dada and Carsten Magerkurth

SToP presentations at the Conferences:

- SToP demo at RFID Sys-tech Conference - 4th European Workshop on RFID systems and technology (RFID Sys-tech)
Freiburg, Germany, June 10-11, 2008
<http://www.rfid-systech.org/>

- *SToP panel at the 21st Bled eConference - eCollaboration: Overcoming Boundaries Through Multi-Channel Interaction*
»Issues and Opportunities for product e-tampering prevention« Bled, Slovenia, June 16th, 2008
http://bledconference.org/Panels/AllPanels/Issues_and_Opportunities_of_Product_Tampering_ePrevention.html

UPCOMING ACTIVITIES

- SToP presentation at European Associated Laboratory in Microtechnics (EAL) Workshop September 8-9, 2008 <http://www.leadut.org/arcetsenans2008/>
Reference: F. Gourmanel, Richemont
- SToP poster at the "Towards a European policy on RFID" Conference & Exhibition
September 19, Brussels, Belgium
<http://www.rfid-outlook.pt/>
Reference: Carsten Magerkurth, SAP Research, Germany
- SToP-industry exhibition at the "E12-Gipfel"
<http://www.ieb.net/index.php?id=2717>
Autumn, 2008
Reference: Carsten Magerkurth, SAP Research, Germany

CONTACT & INFORMATION

Additional information is available at SToP project website
<http://www.SToP-project.eu/>

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