SLOVENSKI STANDARD
SIST-TP CEN/TR 17386:2019

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Poštne storitve - Merjenje prehodnih časov za čezmejne poštne pošiljke z uporabo študije realnih poštnih zmogljivosti

Postal services - Transit time measurement for cross border postal items using real mail feasibility study

Postalische Dienstleistungen - Messung der Durchlaufzeit von grenzüberschreitenden Postsendungen unter Nutzung von echten Sendungsdaten

Services postaux - Mesure du délai d'acheminement du courrier transfrontière à partir des flux réels - Rapport de faisabilité

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03.240	Poštne storitve	Postal services

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TECHNICAL REPORT

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English Version

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This Technical Report was approved by CEN on 21 July 2019. It has been drawn up by the Technical Committee CEN/TC 331.

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European foreword

This document (CEN/TR 17386:2019) has been prepared by Technical Committee CEN/TC 331 “Postal services”, the secretariat of which is held by NEN.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

Introduction

Under the current Standardization Request M/548, CEN and CEN/TC 331 Postal services identified a need for a feasibility study to use real mail processing in the measurement of the quality performance. This feasibility study has been carried out, researching the costs versus the benefits of a method for transit time measurement for cross border postal items using real mail.

Based on this study, is became clear that the time and resources needed to develop such a method are too extensive to justify it. Therefore, the members of CEN/TC 331 Postal services have decided that this method is not feasible and that the method will not be developed within the current Standardization Request M/548.

1 Scope

The scope of this document is a feasibility study that was carried out to explore the use of real mail data in measurement of the transit time of end-to-end services for single piece cross-border priority mail. In this document a description is given of the context, the way this study was carried out, the results of the study and the advice given to CEN/TC 331 Postal services and, finally, CEN and the European Commission.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13850:2012, *Postal Services - Quality of Services - Measurement of the transit time of end-to-end services for single piece priority mail and first class mail*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp

3.1
International Postal Corporation
IPC
cooperative association of postal operators in Asia Pacific, Europe and North America

3.2
Office of Exchange
OE
postal facility which handles the foreign mail departing to and/or arriving from another country

3.3
PostEurop
trade association that represents European public postal operators

3.4
Research question
RQ
investigations carried out as part of the feasibility study

3.5
Sequencing sort
sorting of the mail pieces in the order of the postman delivery

3.6
Test Letters
TL
tracked and traced letter with which the cross-border time is measured between OE's

3.7
UNEX™
postal QoS system of IPC which contains several specific modules and is used to measure international letter service performance between 37 postal operators using test mail methodology, one of which modules measures the end-to-end postal quality of service for single pieces priority in Europe

4 Symbols and abbreviations

CFC Culler Facer Canceller

DPI dots per inch

FC Facer Cenceller

KPI Key Performance Indicator

OCR Optical Character Recognition

QoS Quality of Service

RFID Radio Frequency Identification Technology

RMM Real Mail Measurement

RoI Return of Investment

SPPM Single Piece Priority Mail

USP Universal Service Provider

5 Existing QoS measurement system

The IPC UNEX™ CEN module measures the transit time of end-to-end services for single piece priority and first class mail in Europe, according to the standard EN 13850:2012 *Postal Services – Quality of Services – Measurement of the transit time of end-to-end services for single piece priority mail and first class mail.* The measurement is end-to-end from posting in the original country (C) to delivery to the final addressee in the destination country (I). This includes the time of collection, sorting and transportation as indicated in Figure 1.

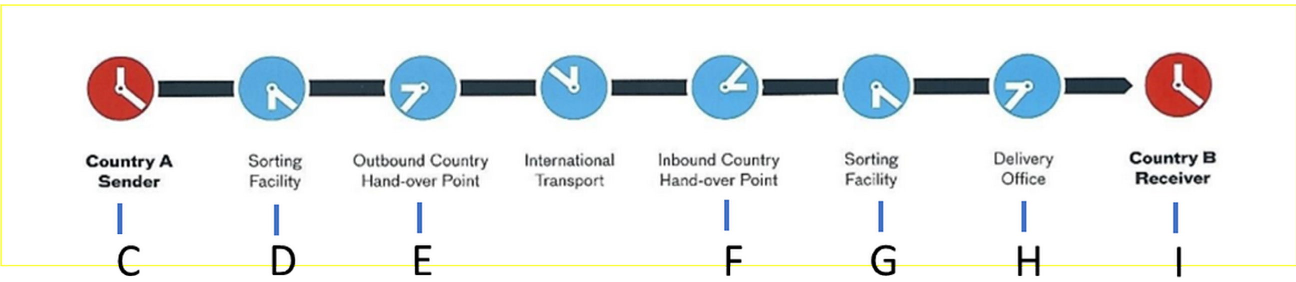

Figure 1 — Postal process from origin country to destination country

This performance measurement monitored since 1994, indicated the percentage of mail flows reaching the final addressee within J+3 and J+5 after posting. The percentage objectives have been set respectively to 85 % (J+3) and 97 % (J+5) (see the 1997 European Union on Postal Services Directive (97/67/EC Directive)).

In order to accurately evaluate these two performances, CEN Test Letters representative of the real mail streams are produced and panellists located in urban and in rural areas are in charge to record the

posting and receiving dates of these test letters. In addition to this manual operation, there are around 40 % of these test letters with a specific RFID device which can be read automatically when the letter is under a RFID antenna located at the entrance and at the exit of each sorting centre. That means for these 40 % of test letters it is possible to record automatically the date when the letter is detected at the various locations indicated in Figure 1: D E F G H.

In 2016 and 2017, 797 mail flows have been measured between 32 EU countries. There were around 1,200 panellists handling around 66 000 test letters per year.

The following Figure 2 provides the J+3 performance (also identified as speed indicator) across years since 1997.

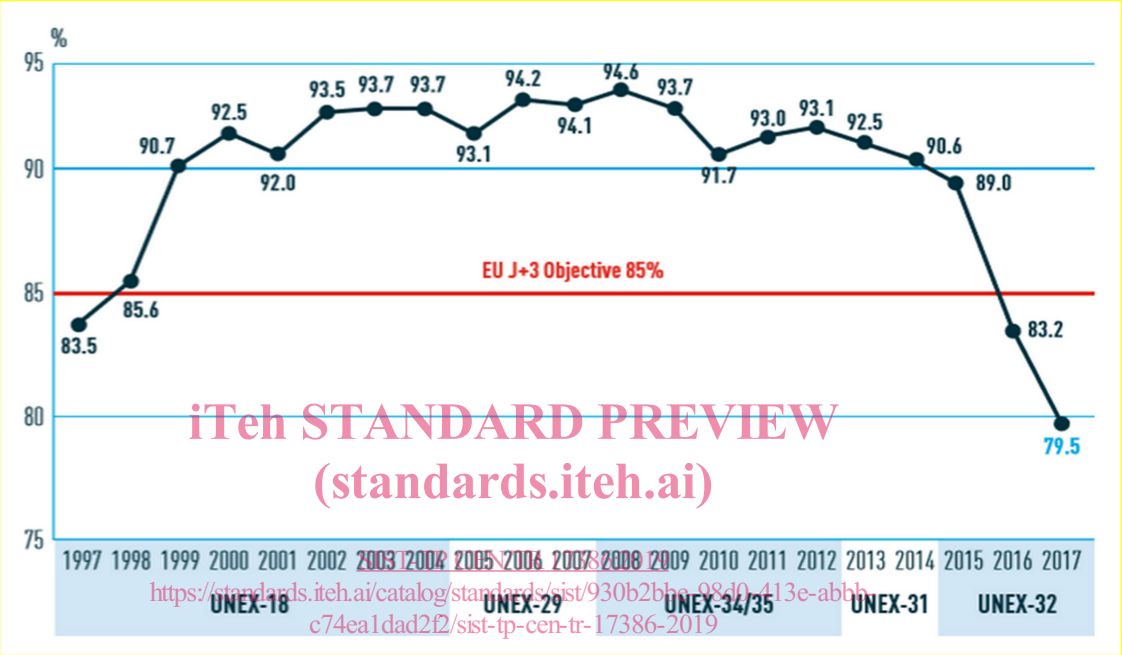

Figure 2 — J+3 performance across years

6 Operational measurement

In order to process the cross-border mail flows between EU countries, bilateral agreements between USP in each country are in place in order to perform the transport from sender to receiver.

The transport between the sender (C) and the receiver (I) requires services to be delivered by each USP in country A and in country B in addition to the international transport - see Figure 3.

Three different legs have been identified:

— Leg 1 corresponds to the transport from the sender in country A up to the hand-over to the first carrier for the international transport – ref to segment C to E in Figure 1;

— Leg 2 corresponds to the international transport up from end of Leg 1 up to the hand-over to the USP of the receiving country B. Multiple carriers may be involved – ref to segment E to F.in Figure 1;

— Leg 3 corresponds to the transport from end of Leg 2 up to the delivery to the addressee in country B – ref to segment F to I in Figure 1.

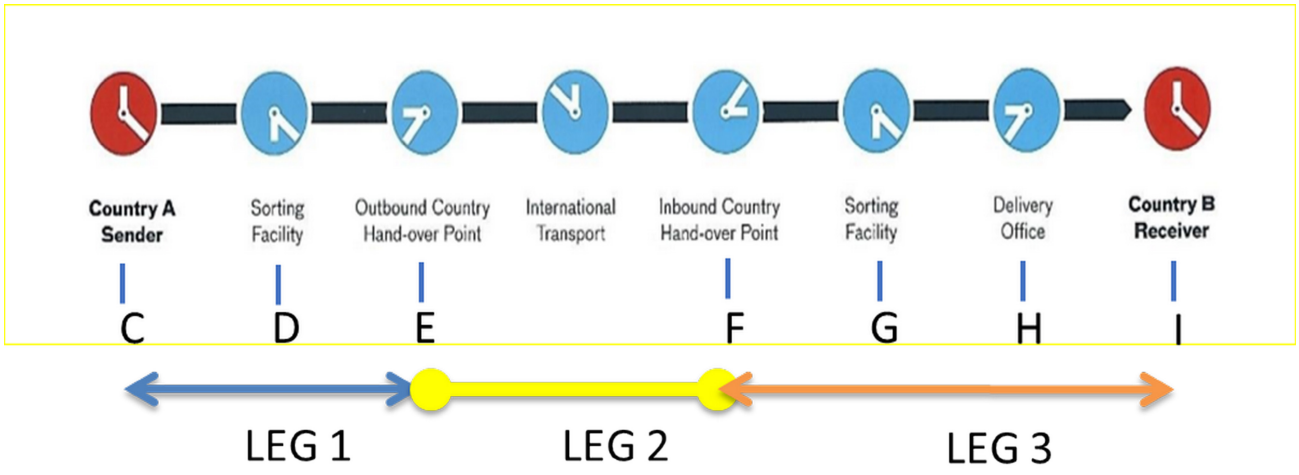

Figure 3 — Operational measurement

For the traffic from country A (sender) to country B (receiver), the Operational Responsibility is defined as the following:

— The Inbound Post B is only responsible for Leg 3;

— Leg 2 which may include multiple carriers is the sole responsibility of the Outbound Post A in addition to the Leg 1.

This operational responsibility is not related as such to the UNEX™ measurement but is an agreed split of responsibilities between all the shareholders for cross-border mail traffic.

As there are sufficient information with the 40 % of test letters automatically detected due to presence of the RFID component transported in these test letters and other messages transmitted between the postal organisations, carriers, etc., it is possible for IPC to precisely determine the operational measurement Leg 1, Leg 2 and Leg 3 for the test items equipped with RFID.

7 Objective of the study

7.1 Objective

The feasibility study shall answer the question of whether new techniques also using methods of tracking and tracing of cross border letter mail within the EU could lead to a reliable and diagnostically useful end-to-end survey to measure the transit time of end-to-end services for single piece cross-border priority mail.

The method to perform this task is listed in the following four Research Questions:

7.2 Research questions

7.2.1 Question 1

Can images captured by sorting machines in sorting centres and offices of exchange per item throughout Europe (EC member states) be stored and used in a survey in such a way that

— Individual mail items can be identified and;

— The date of posting (cancelling information with dates on stamps or the date in the franking image) and tracking data per item throughout a big part of Europe is registered?

7.2.2 Question 2

Can postal operators make these data available, also from a legal perspective?

7.2.3 Question 3

Can real mail data such as described in the questions 1 and 2 be completed with data in order to create an end-to-end result?

7.2.4 Question 4

Can data from domestic surveys be used in combination with real mail track and trace data, as meant in question 3, to produce an end-to-end survey to assess the norms for cross border mail within the European Union in the Postal Directive 2008/6/EC?

7.3 Summary of the purpose of the feasibility study

— to analyse the possibility of acquiring automatically images of letters processed in sorting machines installed in Office of Exchange (or in a sorting centre close to the OE) in both countries (sender and receiver – from country A to country B as indicated in Figure 1).

— to be able to recognize individual mail items from image identification.

— to be able to track and trace individual items between OEs and to measure the time spent during the international transport.

— to analyse the possibility to complement this international transport measurement with the domestic QoS measurement in country A and country B in order to create an end-to-end result as required by the CEN Standard EN 13850:2012 *Postal Services - Quality of Services - Measurement of the transit time of end-to-end services for single piece priority mail and first class mail*.

8 Existing and proven technology

8.1 Image quality

This feasibility study has been launched based on the regular improvements made either in image quality of the cameras and in image matching technology during the last several decades:

— The development of automatic mail sorting equipment started in the 70s,

— A decade later in the 80s, automatic OCR (optical character recognition) was gradually introduced dealing with typewritten and then handwritten address recognition.

— During the next 10 years, several recognition engines were combined in the same logic to carry out the full interpretation of addresses written on the letters enabling the domestic sorting up to sequencing which is the last sortation phase before the postman delivery.

In order to perform the full address identification only once (at the start of the domestic processing chain), a unique barcode (also called Tag Id code) is printed on each mail piece in order to easily identify this letter all along the journey from the sender to the final addressee. All information required for processing are associated to this unique Tag Id code. The sorting information is retrieved when the Tag Id of the letter is detected and read in a sorting equipment.