PD CEN/TS 15472:2016

BSI Standards Publication

Postal services — Method for measurement of parcel transit time for cross-border parcels within the European Union and EFTA using Tracking and Tracing

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National foreword

This Published Document is the UK implementation of CEN/TS 15472:2016. It supersedes PD CEN/TR 15472:2006 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee SVS/4, Postal services.

A list of organizations represented on this committee can be obtained on request to its secretary.

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TECHNICAL SPECIFICATION

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CEN/TS 15472

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Supersedes CEN/TR 15472:2006

English Version

Postal services - Method for measurement of parcel transit time for cross-border parcels within the European Union and EFTA using Tracking and Tracing

Services Postaux - Méthode de mesure des délais de traitement des colis transfrontaliers au sein de l'Union européenne et de l'AELE par les procédés de suivi et de localisation

Postalische Dienstleistungen - Anwendungsleitfaden zur Messung der Päckchenlaufzeit bei Nutzung eines Nachverfolgungssystems

This Technical Specification (CEN/TS) was approved by CEN on 11 January 2016 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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European foreword

This document (CEN/TS 15472:2016) has been prepared by Technical Committee CEN/TC 331 “Postal services”, the secretariat of which is held by NEN.

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This document supersedes CEN/TR 15472:2006.

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Introduction

This Technical Specification followed a two-phased approach.

In Phase 1 the Technical Report CEN/TR 15472 standard was reviewed.

The CEN/TR 15472 specified methods for measuring the transit time results of domestic and cross-border parcels, collected, processed and delivered by postal service providers. This quality of service indicator does not measure the postal or logistic operator's overall performance in a way that provides direct comparison of postal or logistic service operators, and does not include other service performance indicators than those related to transit time.

If a global transit time result is required then all items included in the calculation needs to have been scanned at all the location points within the pipeline. Consequently the scope of CEN/TR 15472 is not useful anymore given that:

— reluctant implementation at national postal operators - only 4 countries implemented it in Europe;

— not fully adapted to the goals of the customers, operators and regulatory authorities: only a TR (not a TS or EN) content inadequate and no implementation guide.

On Friday, November 28th 2014, in Budapest, Hungary, at the 37th plenary meeting of CEN/TC 331 Postal Services, made a decision to change the scope to a method for measurement of parcel transit time for cross-border parcels within the European Union and other CEN member states using tracking and tracing for measurement of the parcel transit time. The following countries have committed active participation in its development: the Netherlands, Germany, Denmark, Finland and Austria.

This Technical Specification is Phase 2 of the project.

1 Scope

Method for measurement of parcel transit time for cross-border parcels is mainly from an e-merchant perspective, especially for small and medium-sized companies. Based on an earlier study, the method will be based on events of the track and trace process.

Events used need to be kept simple and transparent for the measurement of the complex matrix of the flows between European countries.

The last part of the process (delivery options) is dependent on the country and on its historical development of postal and logistic operators - this part of the logistics process is currently too complex for simple measurement. Therefore the Technical Specification (TS) will focus on the main part of the process: from entrance (hand over) in the logistics chain to the first attempt of delivery.

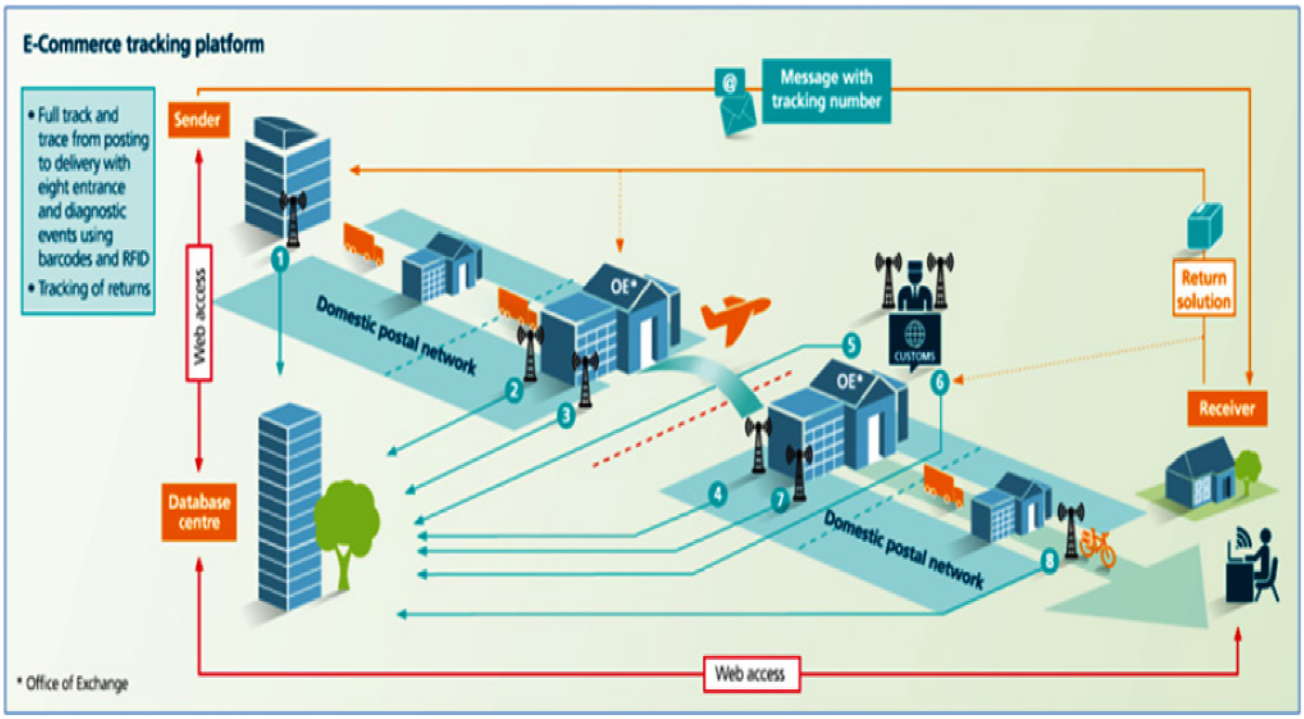

Figure 1 — E-Commerce tracking platform

The Technical Specification should:

— be technically and supplier neutral;

— not be limited to postal operators but open to all operators transporting parcels;

— take into account events relevant for the customer's (sender or receiver) needs;

— define calculation rules;

— be easy to implement.

This Technical Specification does not set quality of service standards or targets.

2 Terms and definitions

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

2.1
POA
date proof of acceptance
event-scan on day X proving that the parcel is transferred to the operator before the latest acceptance time (hand over in the logistics chain)

2.2
date first valid attempt of delivery
unchallenged event-scan on day X + Y giving reasonable and audible proof that a delivery-attempt has been made within the conditions stipulated in the general terms or customer information of the operator

2.3
delivery address
place where the parcel is to be delivered so the addressee can receive it according to the agreed service conditions

Note 1 to entry: This might be a home address, but also a pack station, an alternative address chosen by the addressee or an outlet of the operator if this is within the stipulated service conditions.

2.4
transit time
transit time in days between POA and first valid attempt of delivery

2.5
parcel
item that is to be conveyed from a sender to a receiver, that is in general up to 20 kg and mostly too big to be delivered in a letter box

Note 1 to entry: The dimensions of a parcel do not exceed two meters for any one dimension or three meters for the sum of the length and the greatest circumference measured in a direction other than that of the length. In the context of this Technical Specification it is important that it is possible to track and trace a parcel (so a parcel is barcoded or fitted with other means to track and trace).

Note 2 to entry: In line with the text of the EU directive.

2.6
held by customs
indicating a delay as an event in the track and trace system

Note 1 to entry: Delay which is attributed to customs activities and not to the operator's performance.

2.7
receiver
receiver of the parcel

2.8
sender
entity offering parcels for shipment

EXAMPLE E-merchant.

3 Characteristics of cross border parcel exchange within EU and other CEN-countries

One of the main and basic aspects of the European Union is the free movement of goods, services, capital and people. No customs declaration is needed.

Certainly for EU – EU trade customs will investigate by sampling if taxes are paid (excise –goods) and that there is no exchange of illegal goods (drugs, explosives etc.), but the general rule is that the exchange of goods/ parcels is unhindered by customs.

Therefore for the exchange of parcels within the European Union delay by customs is an exception and shall be treated as an exceptional cause of delay only. As for countries within the CEN-framework but not in the EU held by customs is a common issue.

Relevant events

From the sender and receiver perspective there are only two events that are relevant in calculating the transit time in order to assess if the service promise in terms of the number of days between sending and receiving has been met:

a) the proof of acceptance before the latest acceptance time (POA);

b) the proof of the first valid attempt of delivery[1)].

Other issues might be important, but are irrelevant to the scope of this TS.

4 Methodology

4.1 Transit time in general

The transit time is measured in days between Proof of Acceptance (POA) and first valid attempt of delivery.

a) Calculation of gross transit time.

b) Take into account the type of service in terms of transit time.

c) Correction for work / holidays[2)]: this can be dependent on the receiver. For example, when it is known that a company is closed or the receiver has reported not to be at home (customer profile), the parcel will not go into distribution and the transit time is reduced by one or several working days.

d) Correction for “held by customs”.

1) In general this is the same as the proof of delivery (POD); if however the parcel cannot be delivered at the first valid attempt of delivery, the fall back is the first valid attempt. Since the first valid attempt of delivery can be considered also placement in parcel station, placement in postal office for service poste restante or equivalent.

2) EN 13850:2012, 5.2.3, Calculation of the transit time: “Published regional holidays may be subtracted in the calculation of transit time”.

e) Correction for “Force Majeure”.[3)]

For the greater part the data are generated on the basis of event scans in the operational process. The transit time can be measured over all the parcels all through the year.

Only parcels where the two relevant events (Clause 3) are correctly registered can be taken into consideration when calculating the transit time.

4.2 Approach for calculating transit time

4.2.1 General approach

4.2.1.1 Proof of Acceptance

Parcels of big senders are collected at sorting centres: the first sorting scan in the (first) sorting centre of the operator will be the first scan for the great majority of standard low price parcels.

Parcels sent from post offices (retail outlets) partly receive a post office-scan, but it is not always possible to integrate these scans in the database for the transit time calculation, if the transit time of all parcels is to be measured in the same way.

There can be a delay between actual handover and the first sorting scan. It may be necessary to estimate the chance of delay to complete the measurement. The method to estimate delay in this period is described in Annex A. The estimated delay shall be added to the total score.

4.2.1.2 The proof of the first valid attempt of delivery

In general if parcels are out for delivery either to business customers or residential customers in the delivery route this will count as the proof of the first valid attempt of delivery; an automatic proof of delivery (POD) event will be generated. This automatic proof of delivery will be annulled if there is proof that the delivery has not taken place on the given day. The most common causes for this failure are:

— The driver was too busy or “forgot” to make a delivery attempt on the delivery day and took the parcel back to be delivered the next working day: a scan “still in store” will prove the delay;

— Miss-sorting: in the sorting centre a parcel was sorted in the wrong direction, the parcel cannot be distributed and will return to the sorting centre. An event scan which proves the mismatch between address and delivery route will be generated; the parcel will re-enter sorting and therefore delay will be proven.

4.2.2 Example PostNL - Netherlands

a) The first event POA is generated by the first sorting scan[4]

b) The second and last event, the proof of the first valid attempt of delivery is generated by the corrected (POP UP1) scan[5]: in general this is the scan *out for delivery*.

This will be invalidated if for example:

3) EN 13850:2012, 5.2.2, Continuity of measurement.

4) Example PostNL Parcels (= First sorting scan → POP1CNP).

5) Example PostNL Parcels (→ POP UP1).

c) A scan *out for delivery* is followed by a scan "still in store" the POP UP1 will be annulled and only generated again by the next scan *out for delivery*. This will mean that this parcel is out of the agreed transit time (delayed).

d) If there is a conflicting scan the POP UP will be erased completely. For example a parcel that has ended up at a wrong delivery office a scan "delay because of wrong office" will be generated. This will mean that this parcel is out of the agreed transit time (delayed).

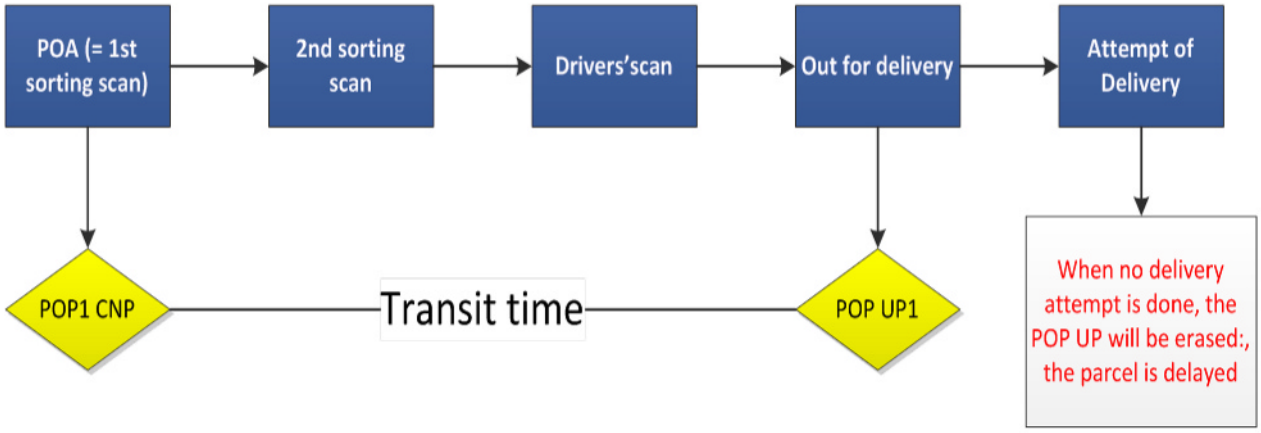

Figure 2 — Post NL Example

4.2.3 Example PostNord: Denmark

a) The first event (POA) is generated by the first sorting scan at the arrival centre

b) The third and last event, the proof of the first valid attempt of delivery is generated by the deliverer (mailman) during the delivery round or at the post shop if the parcel is not for home delivery or when placed in the pack station for pick up by the receiver.

c) This measurement will be corrected when there is a conflicting scan. In case of miss-delivery, a made scan is annulled and replaced by the final delivery scan when an item reaches/is delivered to its right receiver or pick-up point. In the case of being sent to the wrong delivery office, an item will receive a scan for wrong delivery. Following redirection a new scan for arrival will be made at the right distribution centre upon arrival. Both these events result in extended transit time compared to the set time of transit and are therefore counted as delays.

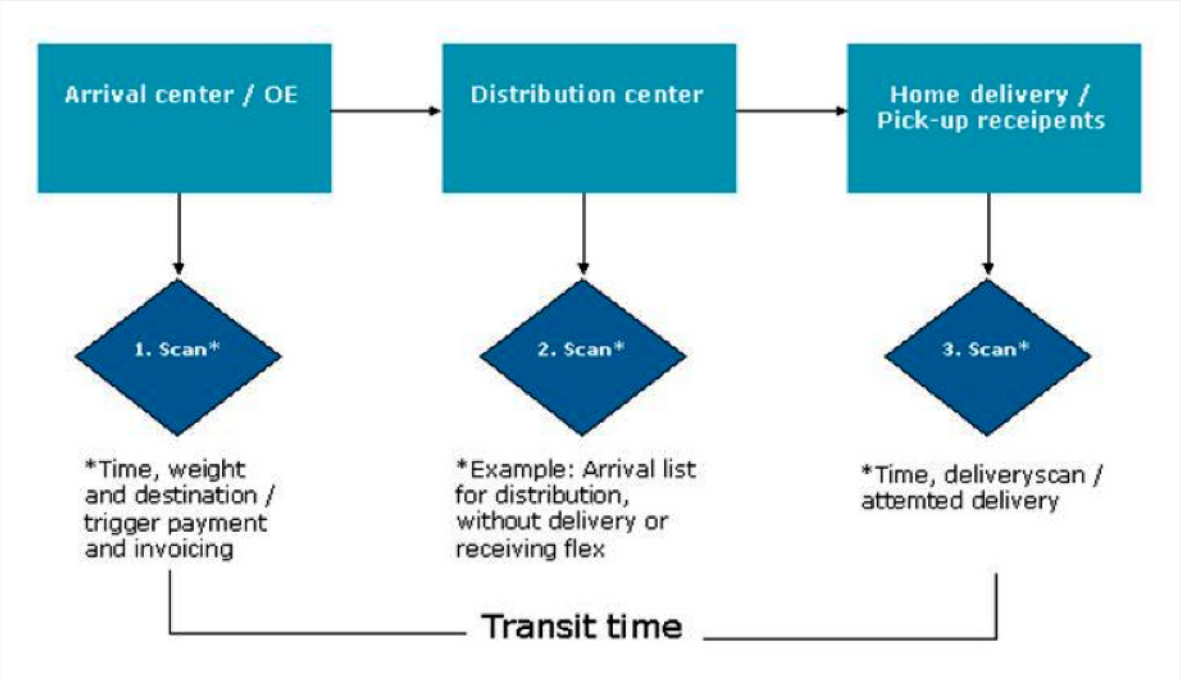

Figure 3 — PostNord Denmark Example

4.3 Calculating transit time and a result (on time)

Transit time should be reported as a percentage. This is calculated by dividing the total number of items achieving on-time performance by the total number of items with a valid transit time.

The decision “on time” or “delayed” is related to the accepted transit time / service framework/ targets.

Reasons for excluding data:

— unknown addresses

— incorrect addresses

— date of delivery is before/on the same day that the date of acceptance

— date of delivery/ acceptance is a Sunday or a national or regional public holiday on which no delivery/ acceptance is made

— All postal parcels delivered up to J+30 shall be considered in the calculations. Parcels not delivered by J+30 may be excluded, because they may be deemed as lost or are not detectable in the system any more within the reporting period.

4.4 Calculation Rules

4.4.1 General

The basic rule however is the service promise in terms of transit days made by the operator to the sender and receiver. Derived from the promise made to the receiver made by the sender (e.g.: the e-retailer) based on the operators promise regarding items handed over before the latest acceptance time.

Per definition this service promise is country and operator specific

Delay caused by customs can be excluded from the transit time calculation and should be put into separate reporting. In that case the data shall be corrected. This can be done where there is an auditable proof (for example scan - Held by customs).

4.4.2 Example 1: Collection Monday-Friday / Delivery Monday-Friday

The following table shows a calculation rule for parcels posted at least on each collection day of the week.

On time for instance:

Possible service criteria: Belgium – Germany: 2 d, later: delayed

Possible service criteria: France – Romania: 5 d, later: delayed

Table 1 — Collection Monday-Friday / Delivery Monday-Friday

Working Week 1					Non-Working weekend: Saturday/ Sunday		Working Week 2				
Mon-day	Tues-day	Wed-nesday	Thurs-day	Friday			Mon-day	Tues-day	Wed-nesday	Thurs-day	Friday
J	J + 1	J + 2	J + 3	J + 4			J + 5	J + 6	J + 7	J + 8	J + 9
	J	J + 1	J + 2	J + 3			J + 4	J + 5	J + 6	J + 7	J + 8
		J	J + 1	J + 2			J + 3	J + 4	J + 5	J + 6	J + 7
			J	J + 1			J + 2	J + 3	J + 4	J + 5	J + 6
				J			J + 1	J + 2	J + 3	J + 4	J + 5

NOTE 1 J = Day of induction.

NOTE 2 Parcels posted on non-working days are treated as posted on the next working day.

4.4.3 Example 2: Collection Monday-Friday / Delivery Tuesday-Saturday

Table 2 shows a calculation rule applied for parcels posted at least on each collection day of the week. Collection is from day one up to day five; delivery is from day two up to day six (five days)

On time for instance:

Possible service criteria: Germany – The Netherlands: 3 d, later: delayed

Possible service criteria: Romania – The Netherlands: 5 d, later: delayed

Table 2 — Collection Monday-Friday / Delivery Tuesday-Saturday

Working Week 1					Weekend:		Working Week 2				
Mon-day	Tues-day	Wed-nesday	Thurs-day	Friday	Satur-day	Sunday	Tues-day	Wed-nesday	Thurs-day	Friday	Satur-day
J	J + 1	J + 2	J + 3	J + 4	J + 5		J + 6	J + 7	J + 8	J + 9	J+10
	J	J + 1	J + 2	J + 3	J + 4		J + 5	J + 6	J + 7	J + 8	J+9
		J	J + 1	J + 2	J + 3		J + 4	J + 5	J + 6	J + 7	J+8
			J	J + 1	J + 2		J + 3	J + 4	J + 5	J + 6	J+7
				J	J + 1		J + 2	J + 3	J + 4	J + 5	J+6

NOTE 1 J = Day of induction.

NOTE 2 Parcels posted on non-working days are treated as posted on the next working day.

4.5 Monitoring and independence

In order to calculate the results, the database used for the result calculation should contain the following attributes:

— every item in the database should have a unique identification number or code;

— to calculate the transit time every item in the database should have an event scan with a proof of acceptance as defined in this standard;

— to calculate the transit time every item in the database should have an event scan with a proof of valid delivery attempt as defined in this standard;

— incomplete or incorrect addresses (with auditable proof) may be flagged although there should be no pre-filtering of the data to exclude records.

An assurance report by a qualified auditor should be available to confirm the database has been correctly constructed, records have been accurately created and the calculations have been carried out against the declared transit time calculation method. The auditor should be an organization independent from the operator.

The calculation of the results may be produced by one or more operators or by a third party acting on behalf of one or more customers or one of more operators. The assurance report should always be by an organization independent of both the party; or parties, administrating the database and/or calculating the results.

4.6 Reporting

The report should contain the following information:

a) the subject: specification of the product or service range the parcels belong to covered by the results;

b) the country-to-country link or a more specific field of study (Annex B);

c) the total number of items recorded on the link or specific field of study for the period to be reported upon;

d) the total number of these items with a valid transit time;

e) the total number of these items achieving on-time performance;

f) an explanation of the difference between d) and c); number and reasons for the different totals;

g) the on time score: the items achieving on time performance divided by the total number of items with a valid transit time;

h) methodology used, by reference to this Technical Standard;

i) the definition of the two events (POA, first valid attempt of delivery) as used by the operators in each country;

j) details of any shortcomings found by the assurance auditor to the administration of the database or to the calculation of the results;

k) the name of the organization, or organizations, producing the results and the organization providing the assurance report.

Reporting should be based on sender or receiver requirements.

Annex A
(normative)

A method to estimate delay in the stretch between actual handover and the first sorting scan[6)]

In general: Since the measurement of parcel transit time for cross-border parcels shall be an end-to-end measurement it is necessary to consider possible delays happening on the stretch between the moment when the customer hands over the parcel to the postal operator and the moment of the first sorting scan.

We can distinguish two cases:

a) If there is a scan at the handover from the customer then this handover scan shall determine the starting point of the measurement. This is usually the case when customers are posting parcels at post offices, parcel shops, post kiosks, post boutiques, sorting centres or at automated self-service parcel terminals. Parcels may also be scanned when collected at small businesses.

b) If there is regularly no scan at the handover from the customer then the transit time on the stretch between handover to first sorting scan shall be estimated using statistical sampling methods. This is usually necessary when parcels are collected from the premises of large customers.

Method to calculate the end-to-end transit time when part of the result requires statistical sampling techniques to estimate the first stretch:

c) For all parcels of category b. above, it is necessary to scan a representative sample of parcels in the following categories:

    1) Each posting region (sorting centre catchment area)

    2) Each type of posting customer per region (ideally each customer per region)

    3) Each parcel size / product per region

    4) Each type of handover container (roll cages, swap bodies or others)

d) With the data from these scans, it is possible to calculate the number of days between the handover scan date and the first sorting scan date per category. If a parcel is on-time then this number should be zero. Based on the on-time proportions of first stretch transit times per category and the transit times from first sorting scan to delivery, one can then estimate the full end-to-end transit time probabilities.

It should be noted that last acceptance times at customers and perhaps also critical times for the first sorting scan shall be taken into account for the transit time calculation.

6) If an actual hand-over scan is available and if that scan can be integrated in the data, this method might not be needed.

Annex B
(informative)

Examples of fields of study

— Cross-border – one induction operator on a country-to-country link

— Cross-border – one induction operator to one delivery operator

— Cross-border – one induction operator to a group of delivery operators

— Cross-border – one induction operator to one country

— Cross-border – one country to one delivery operator

— Cross-border – one induction operator to a group of countries

— Cross-border – a group of countries to one delivery operator

— Cross-border – one country to one country

— Cross-border – one e-merchant to one country

— Cross-border – one e-merchant to one induction operator

— Cross-border – one e-merchant to a group of countries

— Cross-border – one e-merchant to a group of induction operators

— Cross-border – a group of e-merchants to one country

— Cross-border – a group of e-merchants to one induction operator

— Cross-border – a group of e-merchants to a group of countries

— Cross-border – a group of e-merchants to a group of induction operators

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[2] EN ISO 9000, *Quality management systems — Fundamentals and vocabulary (ISO 9000)*

[3] EN ISO 9001, *Quality management systems — Requirements (ISO 9001)*

[4] EN ISO 19011, *Guidelines for auditing management systems (ISO 19011)*

[5] ISO 10005, *Quality management systems — Guidelines for quality plans*

[6] ISO 10007, *Quality management systems — Guidelines for configuration management*

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