

PUBLIC CALL FOR TENDER PROJECT TEAM EXPERTS

for the execution of the work called for in the proposed Specific Agreement
SA/CEN/GROW/EFTA/546/2016-08

Traffic Management System status, fault and quality standards

Introduction

Following the acceptance by the European Commission of a proposal from CEN, as prepared by the CEN/TC 278 Secretariat, funding is available for establishing a team of paid experts.

Recruiting these experts has been delegated by the CEN Secretary General to the secretariat of CEN/TC 278, held by NEN.

Task of the project team

The project team is tasked with the preparation of the following deliverable(s):

- A CEN technical Specification: Intelligent transport systems – Traffic Management Systems – Status, fault and quality requirements

Contractual details

The proposed Project plan is attached. The project plan describes in detail what is expected from the project team, the work plan and milestones and the expertise required for the execution of the task(s).

The experts selected will sign an Agreement with NEN. Applicants should be forewarned that the elapsed time between completion of the deliverables and NEN being in a position to issue the payment is at least five months. This will be partly overcome by the fact that CEN and the European Commission have agreed on the following payment steps:

- Step 0: Pre-financing (25 % of the total budget) - following signature of the Agreement with NEN
- Step 1: Interim payment¹ - subject to the approval of the interim report by the European Commission and EFTA
- Step 2: Final payment² - subject to the approval of the final report by the European Commission and EFTA

Selection procedure

Applicants will be selected by a selection committee, which is composed of:

- the Chair of CEN/TC 278 Intelligent transport systems
- the Convenor of CEN/TC 278/WG 17 Urban-ITS
- the Secretary of CEN/TC 278 Intelligent transport systems
- a representative from the CEN Central Management Centre

¹ Up to 75% of the total budget, reflecting the actual number of man-days spent.

² Up to 100% of the total budget, reflecting the actual number of man-days spent.

Experts will be selected ensuring an equal representation of sectors, countries and skills, as well as the expected 'chemistry' within the project team. Additionally the selection will be based on the principle of best value for money, considering the day rate of the expert and the number of days the expert requires to execute the work.

The report of the selection committee on the selection of the experts will be submitted for approval to the European Commission and EFTA prior to the contracting of the experts.

Application procedure

Applications should be submitted using the [attached application form](#) (word format) by **28-02-2017**. Applications received after the deadline will not be taken into consideration.

I'm looking forward to receiving your application.

Yours sincerely,

Maarten Peelen
Secretary of CEN/TC 278

SA 2016-08

Traffic Management Systems

Project plan

1 CONTEXT

Two documents provide the context for this proposal:

- (1) Standardisation request to the European standardisation organisations as regards Intelligent Transport Systems (ITS) in urban areas. [Ref Standardisation Request M/546](#) (Published February 2016).
- (2) Recommendations of CEN TC278 PT1701: Technical Report: Intelligent transport systems: Standards and actions necessary to enable urban infrastructure coordination to support Urban-ITS.
http://media.wix.com/ugd/a7dbd0_8cc42a2831df44f6a2e040f65036579c.pdf

This project proposal is designed to meet PT 1701 High Level Recommendation HLRd:

D	1701-HLRd Traffic Management System status, fault and quality standards
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The task of PT1701 was to identify gaps and overlaps in ITS standards that may be needed by Urban Administrations to assist them to implement Urban-ITS. The PT was further charged to outreach into the Urban Administration community and EC Urban-ITS related projects community to identify the scope and issues relating to its work, and subsequently, to validate its interim findings. The project team itself comprised 11 persons comprising: Urban Administrations; practitioners and advisers to Urban Administrations; professional standards developers; ITS industry; automotive industry.

As part of its work, the PT created and examined 95 use cases for ITS deployment in the Traffic Management, Multimodal Information Systems and Urban Logistics domains. In addition more than 140 projects/reports studied for relevance and content. These were used to create 103 interim recommendations for standards related activities that could usefully help to expedite the speedy deployment of Urban ITS.

These recommendations were included in the interim report produced by the PT in January 2016 and were used as the core of the extensive programme of outreach activities it carried out, contacting some 116 urban authority/related organisations. A list of outreach contacts can be found in Annex P of the [Final Report of PT1701](#). The PT organised an open workshop that was held on 11/12 February 2016, and as a result of the discussions at that meeting and based on early feedback from Urban Administrations, the content of the Interim Report was extensively revised, including a significant consolidation of the recommendations, and the summary report and executive summary significantly rewritten to focus on the issues as identified by the Urban Administrations.

The [PT1701 final report](#) referenced above consolidates the recommendations supported by outreach feedback and provides 8 high level recommendations for support under the CID [Ref Standardisation Request M/546](#). This has been accepted by CEN TC278, and, more significantly, by the European Commission, and represents the key recommendations for support under the mandate [Ref Standardisation Request M/546](#).

One of the main findings from the work of PT1701 and highlighted in its final report is that there are a number of major gaps that will weaken the ability of Urban Administrations to implement urban-ITS efficiently, and in some aspects, gaps may prevent its introduction unless faced and provided as a matter of urgency. There are, additionally, a number of highly desirable aspects that could much better assist Urban Administrations to implement Urban-ITS, and a number of aspects of lower priority that need to be addressed at some point in time.

Key issues identified by Urban Administrations as identified barriers to implementation of Urban ITS, where standards are needed to remove/reduce the barrier to the implementation of urban-ITS are identified as follows:

- a) Awareness of what is available
- b) Location referencing
- c) Avoiding vendor lock-in (Mixed Vendor Environment)
- d) Standards for “New Modes” and “new measures
- e) Data exchange/data management
- f) Immaturity of some concepts

2 OBJECTIVES AND IMPACT

2.1 Objectives

The objective of this study is to identify the standards and actions necessary to enable urban infrastructure coordination to support the deployment of Urban-ITS. In particular, the study will concentrate on what is relevant to PT 1701 High Level Recommendation HLRd: Traffic Management System status, fault and quality standards

2.2 Relevance

The COMMISSION IMPLEMENTING DECISION on a standardisation request to the European standardisation organisations as regards Intelligent Transport Systems (ITS) in urban areas in support of Directive 2010/40/EU of the European Parliament and of the Council of 7 July 2010 on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport requires that:

The requested European standards and European standardisation deliverables shall be developed to be compliant with data availability, access, quality, reliability and accuracy.

The management of traffic is clearly central to the role of the Urban Administration and one of the key pillars of Urban-ITS.

ITS exists in an area of constantly and rapidly evolving technology, and is often at the forefront of technological innovation. As more solutions and tools are developed, the variety and amount of data (static, dynamic, floating, etc.) is constantly increasing. A trend towards open data, and in some circumstances, open access, is enhancing the scope and quality of the accessible data, as well as enabling the development of new mobility services, and travel or traffic applications.

The Urban Administration also has another master, and that is the central government of the Nation State. This will impose the result of various political decisions that it has made, primarily regarding the quality and extent of services provided by Urban Administrations. The Urban Administration therefore has also to protect its political masters by ensuring that the will of the central government – national legislation and regulation- is also maintained.

Mutual dependency means that no single party can dominate and exercise overall control. Structural consultation platforms are necessary in which agreements can be made, for example, about standardisation and data availability and quality.

Providing data for quality-of-service (QoS) analyses and processes may take place, based on data collected about the effects of traffic management strategies in combating and reducing the impact of

congestion, whether a regular occurrence or due to incidents and/or specific events. The purpose of the initial data collection and consolidation is not carrying the actual quality-of-service information, but only the input data from which such indicators can be computed.

The PT1701 pre-study identified the following gaps in respect of data availability, access, quality, reliability and accuracy in the Traffic Management (TM) domain:

H.3.3.2 TM-0002a Gaps – TM real-time field data capture

- Comprehensive TM-system reference model (architecture).
- Comprehensive traffic data standard for urban traffic control & management and TM quality assurance.
- Comprehensive system status and fault messages standard for urban TM infrastructure (preferable subsystems in the field level).

H.3.3.5 TM-0004 Gaps – TM Real-time Data Processing

- Standards (incl. standards for quality assurance) for aggregated and vehicle type classified data
 - traffic volume,
 - occupancy rates,
 - average speed
 - ...
- Standards (incl. standards for quality assurance) for operational data and information.

H.3.3.6 TM-0005 Gaps – TM Traffic Condition calculation and Event/Incident detection

- Standards (incl. standards for quality assurance) for traffic condition (LoS), travel times and events.

The PT1701 Pre-study also identified a requirement for:

“Operational message management: *Acquisition, visualization, storing (if necessary also archiving) and documentation of technical error and operational system status messages at a central location/database of urban traffic management, provision of appropriate data services for other services and for a centrally organized fault clearance management, (and which provides interfaces to the inter-urban road operator and to public and private traffic and traveller information service providers).”*

The analysis of PT1701 largely stems from identified TM Use Cases. Many of the gaps from the Use Cases, and hence the recommendations, are focused on data exchange, and this covers a broad spectrum of functions, including the traditional synchronised and adaptive control of traffic signals, but also integration of a growing range of traffic sensors and even simple functions, like how to put information on message signs and deliver automated fault reporting. This area also includes identifying gaps in DATEX II to ensure it can continue to provide the necessary high level data exchange for all Traffic Management functions.

PT1701 has proposed

D 1701-HLRd Traffic Management System status, fault and quality standards		
	Rc_TM04	A quality or performance criteria standard (service level agreements in terms of ITS performance e.g. availability, timeliness of data transactions or key performance indicators in terms of safety, efficiency and environmental impact) for the validation and assessment of traffic management services from suppliers. (H.4)

		Rc_TM08	System status and fault messages (particularly for the sub-systems in the field level), in order to support system monitoring and (semi-automated) fault clearance. (H.4)
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Which it elaborated as

D	1701-HLRd Traffic Management System status, fault and quality standards (PT Final Report Section H.4).	A quality or performance criteria standard (service level agreements in terms of ITS performance e.g. availability, timeliness of data transactions or key performance indicators in terms of safety, efficiency and environmental impact) for the validation and assessment of traffic management services from suppliers. System status and fault messages (particularly for the sub-systems in the field level), in order to support system monitoring and (semi-automated) fault clearance. (PT estimate 170 mandays: 130k€ Team of 3-4) (Subsequently revised to Team of 4 : 180 days)
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While the interim recommendations TM04 and TM08 were originated within the Interim Report of the project team, the importance and significance of these proposals were elevated to be one of the priority recommendations as a result of outreach feedback.

Section P of the PT1701 Final Report details TM04 as:

traffic management	Rc_TM04-	A quality or performance criteria standard (service level agreements in terms of ITS performance e.g. availability, timeliness of data transactions or key performance indicators in terms of safety, efficiency and environmental impact) for the validation and assessment of traffic management services from suppliers. (H.4)	TM-0009
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15% of all outreach responses from Urban Administrations supported/highlighted this recommendation. In addition, 2 of them ranked this recommendation their highest priority.

Outreach Comments:

- a) *We would welcome the development of such criteria to make future procurements more competitive and easier to evaluate and subsequently monitor the performance of contract delivery.*
- b) *In order to come to large scale deployment, CBA's are needed. This recommendation would help to do this in a transparent and standardized way (Note the comment does not define CBA)*

Section P of the PT1701 Final Report details TM04 as

traffic management	Rc_TM08-	System status and fault messages (particularly for the sub-systems in the field level), in order to support system monitoring and (semi-automated) fault clearance. . (H.4)	TM-0002a
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Again 15 % of outreach respondents, all Urban Administrations, supported/highlighted this recommendation.

While in both cases 15% may not initially seem to be a significantly high %, outreach feedback was generally made to highlight areas of concern, i.e. there was no feedback which addressed each and every recommendation. The respondents just commented on the (usually one or two) areas of importance to them. In this context 15% response support for this recommendation (out of 103 recommendations) represents a very high level of interest and support.

2.3 Indicators

	Target	Minimum
Effectiveness		
Project progress in relation to the schedule specified in this proposal	In time	In time
Stakeholder Engagement		
The PT1701 Recommendations were developed as a result of <ul style="list-style-type: none"> Phase 1: Expert study and outreach to known subject area experts/practitioners. Phase 2: Outreach feedback to proposed recommendations, especially from Urban Administrations Phase 3 consolidation, association and amalgamation See PT1701 Final report http://media.wix.com/ugd/a7dbd0_8cc42a2831df44f6a2e040f65036579c.pdf Outreach feedback that shaped the PT1701 final deliverable came from 116 urban authority/related outreach direct contacts	CEN/TC 278, ISO/TC 204 ISO/ TC 211 ETSI – ITS POLIS TISA DATEX II	Minimum from 3 different stakeholder groups.
The modus operandi of CEN, based upon a network of national standardisation bodies, is geared towards involving all parties concerned		
Dissemination results		
Provide project overview on CEN/TC 278 website: www.TC 278.eu	Project overview + updates	Project overview
The deliverable will be disseminated to the CEN/TC 278 members at three occasions (Working Draft, TC review and Formal Vote) and at WG level more frequently. Participation in TC 278 and at WG level is open to any interested party.	3	2

2.4 Impact

The project will assist Urban Administrations to reliably and swiftly introduce/support for Urban-ITS services within their domain with the ability to rely on: **Traffic Management System status, fault and quality standards**

2.5 SMEs, consumer organization and environmental and societal stakeholder representation (Art.17(4) (b) of standardization regulation No 1025/2012) example– Annex III organisations (ECOS, ETUI, ANEC, SBS)

The modus operandi of CEN, based upon a network of national standardisation bodies, is geared towards involving all parties concerned, including SMEs and societal stakeholders.

The following European stakeholder organizations are members of CEN/TC 278

- ANEC, the European Consumer Voice in Standardization
- ECOS, the European Environmental Citizens Organization for Standardisation
- SBS, Small Business Standards

As members of CEN/TC 278 they can participate in CEN/TC 278 and its Working Group activities and have access to all CEN/TC 278 documents.

3 Description of the tasks

3.1 Introduction

The tasks for this PT will be (in respect of Traffic Management Systems – Status, fault and quality requirements) to develop a:

TECHNICAL SPECIFICATION

Intelligent transport systems – Traffic Management Systems – Status, fault and quality requirements

3.2 Scope

- a) A Technical Specification for quality or performance criteria (service level agreements in terms of ITS performance e.g. availability, timeliness of data transactions or key performance indicators in terms of safety, efficiency and environmental impact) for the validation and assessment of traffic management services from suppliers; and
- b) System status and fault messages (particularly for the sub-systems in the field level), in order to support system monitoring and (semi-automated) fault clearance. .

3.3 Workplan & Milestones

The work plan is as follows:

0	Signature of contract between CEN and the EC	Start (s)
1	Consultation or Public Call for tender and signed contract to start work	S+3
2	Kick-off meeting & Work plan for the Project Team	S+5
3	First draft ready for TC review	S+15
	Interim report	S+17
4	End of TC review	S+17
5	Ready for Formal Vote	S+19
6	Start Formal Vote	S+22
7	End Formal Vote	S+25

8	Publication	S+28
	Final Report	S+30

3.4 Deliverables

3.4.1 Interim report (S+17months)

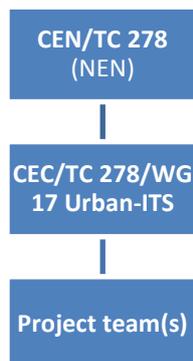
An interim report in the form of a progress report describing the work performed so far and a first draft of the deliverables. Delivered at the stage that the first working draft is available.

3.4.2 Final report (S+30 months)

A final report for all tasks containing the reference of the TS published (published, CEN stage code 60.60).

4 EXECUTION OF THE DIFFERENT TASKS

4.1 Organisation & relationship



The work plan of the Project Team will be aligned with the standardization process in CEN. The Project Team will co-ordinate the time schedule with the timing of TC 278/WG 17 Urban-ITS and provide deliverables in due time before their meetings. The work plan of the Project Team will give room for the given commenting and voting process within TC 278. Regular status reports will be provided to WG17 for information and seeking assistance on issues where required. The Project Team will consider and take due account of inputs from the members of WG17.

4.2 Subcontracting to external organizations

4.2.1 Motivation for hiring experts

The drafting of the documents requires specialized expertise which is not available to standardization managers as permanently employed by CEN and its member NEN. This is the justification for the Commission financial support.

To employ such specialized experts by a CEN member would be expensive and not economically viable considering the very specific area of specialization that is required for the execution of this contract. To engage the services of the appropriate specialist experts from the market is more cost-effective. This sub-contracting also enables the quick availability of the drafts to enter the consensus building and validation processes, which are CEN's core business.

The management and administration of the consensus building and validation process with the aim to publish the end results as a standards deliverable is the responsibility of the CEN National Standards Body, in this case NEN.

CEN has a standard methodology to select specialized experts for a so called Project Teams. Project Team experts are selected via a consultation or Public Call for tender. A balanced composition of the different stakeholders (e.g. in terms of expertise) is preferred.

For the Project Teams in relation to this Grant, experts should have specific expertise and knowledge, which will be the main criterion for their selection and which is described in detail below.7.6.2 Expertise required

4.2.1.1 Project team size and composition

A project team of 4 persons, comprising expertise in the needs of urban administration management of traffic systems status, fault and quality management, and knowledge of requirements for standardization.

4.2.1.2 Expert TMSS 1: Project Coordinator and Editor.

Experience: Detailed knowledge of CEN Standardization system and editing requirements; General knowledge of ITS applications and Urban-ITS in particular. Detailed knowledge of PT1701 work and report.

Tasks: Project Management, coordination, editorial input to specifications, editing, management and production of deliverable. Research into area where further investigation/research is needed. Administrative support to PT.

Expert TMSS 1: Project team leader	
<i>Description</i>	<i>Requirements</i>
<p>The PT leader is responsible for the formal reporting to NEN, for moderating the work in the PT in order to achieve reasonable consensus inside the PT, and act as the interface to the 'parent body' CEN/ TC 278/WG 17 and liaises with other external groups.</p> <ul style="list-style-type: none"> — project management (timeframe, indicators etc.); — organise and manage the project team, — organize and chair physical and e-meetings — Responsible for development, progress, Coordination of the deliverable <p>Research into area where further investigation/ research is needed.</p>	<p>Detailed knowledge of CEN Standardisation system, plus a general knowledge of the range of services that ITS can provide and the applications these provision needs, with a particular emphasis on Urban-ITS and a detailed knowledge of the PT1701 work and its final report. Standardisation Team experience (preferably standardisation team leadership expertise). Practical working knowledge of Traffic Management system status and quality control.</p>
Expert TMSS 2: Expert in OCA/OCIT traffic management systems.	
<i>Description</i>	<i>Requirements</i>
<p>Input in respect of traffic management systems, algorithms and methods of operation, particularly OCA/OCIT TM, technical input to specifications, evolution/migration strategy from current OCA/OCIT to developed system status, fault and quality standards</p>	<p>Detailed knowledge of OCA/OCIT traffic management procedures and protocols.; General knowledge of ITS systems and Urban-ITS in particular. Knowledge of commercial products and services currently available. Detailed knowledge of PT1701 work and report.</p>

Expert TMSS 3: Expert in UTMC traffic management systems.	
<i>Description</i>	<i>Requirements</i>
Input in respect of traffic management systems, algorithms and methods of operation particularly UTMC TM, technical input to specifications, evolution/migration strategy from current UMTC to developed system status, fault and quality standards	Detailed knowledge of UTMC traffic management procedures and protocols. General knowledge of ITS systems and Urban-ITS in particular. Knowledge of commercial products and services currently available. Detailed knowledge of PT1701 work and report.
Expert TMSS 4: Expert in urban administration procedures.	
<i>Description</i>	<i>Requirements</i>
Input in respect of Urban Administration requirements to developed system status, fault and quality standards	Detailed knowledge of application of traffic management procedures and protocols within an Urban Administration (current or recent personal experience within a UA.), plus a general knowledge of ITS and Urban-ITS in particular. Knowledge of the work and report produced by PT1701 is also required.
Expert TMSS 5: Expert in urban administration procedures	
<i>Description</i>	<i>Requirements</i>
Input in respect of Urban Administration requirements to developed system status, fault and quality standards	Detailed knowledge of application of traffic management procedures and protocols within an Urban Administration (current or recent personal experience within a UA.), plus a general knowledge of ITS and Urban-ITS in particular. Knowledge of the work and report produced by PT1701 is also required.

The role 'Editor' will be carried out by one of the above mentioned experts.

Editor TMSS	
<i>Description</i>	<i>Requirements</i>
<u>Developing, revising and editing TMSS deliverables (probably around 100-150 pages)</u>	Detailed knowledge of CEN deliverables development rules, structure and procedures. MS WORD & MS OFFICE Apps.

4.2.2 Travel requirement

It is anticipated that much of the work can be undertaken individually and shared electronically. With a small group of 5, Skype/GoToMeeting can be used. Probably 3-5 physical meetings will be required (to be agreed/decided by PT members amongst themselves).

NOTE The travel budget will be part of the man-day tariff.