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| --- |
| ToR TTF T024 (Ref. Body ITS WG5) |
| Version: 1.3 |
| Author: Scott CADZOW (for WG5) – Date: 2022-07-13 |
| Last updated by: ETSI Secretariat – Date: 2022-09-09 |
| page 1 of 13 |

Terms of Reference –Testing Task Force Proposal

TTF T024 (Ref. Body ITS WG5)

Conformance test suite for Misbehaviour Reporting

Summary information

|  |  |  |
| --- | --- | --- |
| Approval status | Approved by Ref. Body (doc ref: ITS(22)000008 | **YES** |
| Reference Body | Ref. Body TC ITS WG5 (Security) |
| ETSI Funding | **Maximum budget: 40 000 EUR** |
| Minimum of 4 ETSI Members Support | **YES** |
| Time scale | **From** | 2022-10-10 |
| **To** | 2023-12-31 |
| Work Items  | [DTS/ITS-00596-1 (TS 103 868-1)](https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=63535) ITS MBR PICS[DTS/ITS-00596-2 (TS 103 868-2)](https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=63536) ITS MBR TSS&TP[DTS/ITS-00596-3 (TS 103 868-3)](https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=63537) ITS MBR ATS |
| TTF Roadmap reference |  TTF Roadmap 2022 |

Part I –TTF Technical Proposal

# Rationale & Objectives

## Rationale

Cooperative ITS applications rely on the exchange of V2X messages between ITS-S (stations). It is essential to the functionality of the applications that the receiving stations may be able to establish trust in the received data. For this reason, V2X messages are signed with certificates issued by an authority within an established and trusted Public Key Infrastructure (PKI), so that the receiving station may verify that they originate by a legitimate and authorised sender. This measure, however, cannot protect against the propagation of incorrect data that may occur either because of malfunctioning or because of message forgery by ITS stations.

For this reason, in addition to verification of compliance to the expected format (i.e. syntax), stations are expected to perform verification operations on the semantic and contextual content of incoming messages. These verifications, called local detectors, aim to detect misbehaviour, i.e. the reception of data which is not plausible (e.g., a vehicle declares to be travelling at physically impossible speed) or not consistent (e.g., two distinct vehicles declare to be in overlapping positions). In addition to the received messages, the local detectors may exploit contextual knowledge (e.g., a map) and the on-board sensor readings.

When local detectors reveal misbehaviour, the station may produce a report to be sent to a Misbehaviour Authority (MA). It is the prerogative of the MA to collect reports and to act according to an appropriate reaction policy (e.g., revocation of certificates).

The ETSI TS 103 759 specifies the misbehaviour reporting service, which enables the stations to produce and send properly formed reports to the MA. A misbehaviour report shall contain the indication of the observed misbehaviour detectors, along with enough evidence to allow the MA to establish the report as genuine. ETSI TS 103 759 contains the ASN.1 specification of the misbehaviour report format that can be found in ETSI Forge (and in TS 103 079). Moreover, it contains a list of possible local detectors that can be triggered upon the reception of CAM, DENM, and CPM messages, along with the list of the associated required evidence.

The aim of the TTF is to produce a test suite to allow developers to assess compliance to the specifications of the TS 103 759. The test suite will be based on the local detectors addressed in ETSI TS 103 759, targeting CAM, DENM and CPM messages.

## Objectives of the work to be executed

## To develop the conformance test suite for the Misbehaviour reporting protocol and service set (MBR) as described in ETSI TR 103 460 and defined in ETSI TS 103 759 (the latter was submitted to final pre-publication approval on July 1st 2022).

ITS MBR PICS 🡪 TS 103 868-1

ITS MBR TSS&TP 🡪 TS 103 868-2

ITS MBR ATS 🡪 TS 103 868-3

## Previous funded activities in the same domain

**No previous funding for MBR.**

ETSI has been developing ITS standards since 2008 and has produced a full list of standards for Day-1 services and applications under the European mandate M/453 which are listed in the Release-1 standardisation ETSI report TR 101 607 from 2013 and form the basis for the further development of ITS cooperative services and automation.

The STF 545 (<https://portal.etsi.org/STF/STFs/STF-HomePages/STF545>) was setup in 2014 to create a PICS document, a TSS & TP document and an ATS document to include tests of trust and privacy management communications based on ETSI TS 102 941. These were completed and have been adopted in industry.

The TTF 594 (<https://portal.etsi.org/STF/STFs/STF-HomePages/STF594>) was setup in January 2020 to update the PICS, TSS & TP and ATS documents developed by STF545 to address further action to update the ITS Conformance Validation Framework for ITS security and ITS PKI management with tests covering trust and privacy management based on ETSI TS 102 941 V1.4.1 and ETSI TS 103 601 V1.1.1, and updating security header and certificate formats based on ETSI TS 103 097 V1.4.1 to include tests of trust and privacy management communications based on ETSI TS 102 941v1.4.1 (i.e. all in the context of ITS Release 1 updates).

## Consequences if not agreed

The behaviour of vehicles in a C-ITS environment, and in particular their misbehaviour, is a significant identifier of risk to the adoption of C-ITS on the market. The role of the MBS protocol is to determine the triggers of misbehaviour (e.g. invalid data) and to report such detections to maintain the functional integrity of the transport system. The MBR protocol and service set is complex and testing will be a key contributing factor in giving assurance to the market of the viability of C-ITS systems to manage themselves.

As is often stated for any protocol, interoperability is a key factor that enables the use of new technologies and provides benefits attached to them, such as competitiveness, innovation and reliability. ITS technologies are becoming more and more complex, collaborative and interdependent. Furthermore, ITS systems are specified by multiple standards from different standardization development organisations (SDOs). These factors potentially lead to non-interoperability. The development of products that rely on non-interoperable standards can eventually result in fragmented markets, all of which can impact trust.

Various measures can significantly improve the reliability and interoperability of complex systems such as ITS: The development of test specifications for conformance and interoperability can be coupled with validation activities, such as building prototype test systems. Likewise, prototype test systems can be used at interoperability events. Consequently, the project contributes to the effort of testing and validation of ITS systems with the goal to bring the ITS systems to a stage where end users trust the services provided.

# ETSI Members Support

|  |  |  |
| --- | --- | --- |
| **#** | **ETSI Member** | **Supporting delegate** |
| 1 | IRT System X | Francesca Bassi  |
| 2 | C3L | Scott Cadzow |
| 3 | Renault | Farah Emma BRAITEH |
| 4 | Volkswagen | Jan Friebe |
| 5 | ROBERT BOSCH GmbH  | Dr. Norbert Bissmeyer |
| 6 | FSCOM | Yann Garcia |
| 7 | ATOS | Hafeda BAKHTI |

# Deliverables

## Base documents

|  |  |  |
| --- | --- | --- |
| **Document** | **Title** | **Status** |
| ETSI TS 103 759 | Intelligent Transport Systems (ITS); Security; Misbehaviour Reporting service; Release 2 | Approved (July 2022) pending publication |
| ETSI TR 103 460  | Intelligent Transport Systems (ITS); Security; Pre-standardisation Study on Misbehaviour Detection. Release 2 | Published |

## New deliverables

|  |  |  |  |
| --- | --- | --- | --- |
| **Deliv.** | **Work Item code****Standard number** | **Working title** | **Expected date for publication** |
| D1 | TS 103 868-1 | MBR (Protocol) Implementation Conformance Statement: (P)ICS | February 2024 |
| D2 | TS 103 868-2 | MBR Test Suite Structure and Test Purposes: TSS&TP | February 2024 |
| D3 | TS 103 868-3 | MBR Abstract Test Suite: ATS | February 2024 |

# Maximum budget

## Task summary/Manpower Budget

|  |  |  |  |
| --- | --- | --- | --- |
| **Task short description** | CTI effort | Expertise effort | Expertise Budget (EUR) |
| Project Management | 100% |  |  |
| Testing technical specifications development | 50% | 50% | 10 000 |
| Conformance validation framework update | 25% | 75% | 5 000 |
| TTCN-3 code development |  | 100% | 15 000 |
| Validation of the framework |  | 100% | 10 000 |
| Final deliveries update and prepare for publication | 100% |  |  |
| **TOTAL** |  |  | **40 000** |

## Travel budget

N/A

## Other budget line

N/A

Part II –Details on TTFTechnical Proposal

# Tasks, Technical Bodies and other stakeholders

## Organization of the work

ETSI will perform this work by the creation of an ETSI TTF, reporting the milestones and providing the draft deliverables to ETSI TC ITS WG5 (on behalf of TC ITS), according to the planned meeting agenda agreed by the TC ITS Chairman. TC ITS WG5 will perform an active role in steering and contributing to this work.

Coordination with various other stakeholders will be necessary, under TC ITS WG5 supervision, to achieve the best outcome of this work and the widest possible collection of views amongst all parties concerned.

## Other interested ETSI Technical Bodies

None

## Other stakeholders

The EU C-ITS policy group will be consulted and informed on the overall progress of the test specifications as support to the base specification. This is essential if the EU C-ITS policy is extended in future to encompass any aspect of MBR.

Part III: Execution of Work

# Work plan, time scale and resources

## Task description

The TTF work will be performed by a group of Companies/Organizations (Service Providers) that will collectively ensure the following mix of skills are represented:

* Deep knowledge of C-ITS specific Functional requirements;
* Deep understanding of MBR Functional requirements;
* C-ITS System architecture and facilities layer functions;
* Expert knowledge of ITS Security technologies and implementations;
* Expert knowledge of TTCN-3 (ES 201 873);
* Expert knowledge in conformance testing;
* Project management skills are required for the TTF leader who will be responsible for Task-1.

In addition, there must be experience in drafting standards and the expert team should include members familiar with the policy frameworks for C-ITS deployments.

Based on the interest and variety of skills the expert team may vary in size. For project execution efficiency a maximum of 2-3 experts is expected.

The TTF Leader will be responsible for coordinating the execution of the tasks according to the requirements in the Terms of Reference and following the technical direction given by TC ITS. The TTF Leader also possesses project management experience, report-writing skills, standardisation process, experience of consensus building, presentation skills, experience of working in an international environment especially with the EU Commission, different SDOs, authorities and industry.

The following Tasks are identified:

|  |  |
| --- | --- |
| **Task 0** | **Project Management** |
| **Objectives** | Plan the work of the TTF members, ensuring that the timescales of the TTF deliverables are met |
| **Input** | Take TC ITS and TC ITS Working Groups inputs for the work of the TTF |
| **Output** | Report to TC ITS and TC ITS Working Groups as appropriate on the work of the TTFProgress report and final report as required |
| **Interactions** | Attending Technical Body, WG and TTF meetings, presentation of the TTF activity |
| **Resources required** | * Ability to lead and manage a team
* Project management and communication skills
 |

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| --- | --- |
| **Task 1** | **Testing technical specifications update** |
| **Objectives** | Develop the MBR testing technical specifications. |
| **Input** | Base specification documents, Testing technical specification |
| **Output** | Stable drafts of D1-D3 presented to TC ITS |
| **Interactions** | Report to TC ITS and TC ITS Working Groups as appropriate on the work of the TTF |
| **Resources required** | * Deep knowledge of C-ITS specific Functional requirements.
* Deep understanding of MBR Functional requirements.
* C-ITS System architecture and facilities layer functions.
* Expert knowledge of ITS Security technologies and implementations.
* Expert knowledge in conformance testing.
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| **Task 2** | **Conformance validation framework update** |
| **Objectives** | Update the codec and test adapter framework to support the MBR communication. |
| **Input** | Base specification documents |
| **Output** | Source code of the codec and test adapter |
| **Interactions** | Report to TC ITS and TC ITS Working Groups as appropriate on the work of the TTF |
| **Resources required** | * Knowledge of ETSI TS 303 613, ETSI TR 103 099 and other TC ITS test specifications
* Expert knowledge of TTCN-3 (ES 201 873).
* Expert knowledge in conformance testing.
* Expert knowledge in C/C++ programming.
* Expert knowledge in Titan TTCN-3 execution framework and architecture.
 |

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| --- | --- |
| **Task 3** | **Develop the TTCN-3 code** |
| **Objectives** | Develop the TTCN-3 code |
| **Input** | Base specification documentsTest specification documents |
| **Output** | Source code of the ATS |
| **Interactions** | Report to TC ITS and TC ITS Working Groups as appropriate on the work of the TTF |
| **Resources required** | * Knowledge of ETSI TS 303 613 and ETSI TC ITS testing technical specifications.
* Expert knowledge of ITS technologies and implementations.
* Expert knowledge of TTCN-3 (ES 201 873).
* Expert knowledge in conformance testing.
* Expert knowledge in Titan TTCN-3 execution framework and architecture.
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| **Task 4** | **Validation of the Framework** |
| **Objectives** | The ITS Conformance Validation Framework shall be validated against a minimum of at least two DUTs per base protocol. In addition, and beyond the TTF effort, it is expected to get documentation and support from the company providing the DUTs on any issues that may arise. This support shall be limited to reasonable effort. |
| **Input** | Updated Conformance Validation Framework and its specification |
| **Output** | * Extension and maintenance of the ITS Conformance Validation Framework
* Provision and installation of SUT(s)
* Execution of the tests
* Reporting of errors in the ITS Conformance Validation Framework
* Validation of test verdicts
 |
| **Interactions** | Attending Technical Body, WG and TTF meetings, presentation of the TTF activity  |
| **Resources required** | * Expert knowledge of ITS test specifications.
* Expert knowledge of ITS technologies and implementations.
* Expert knowledge of TTCN-3 (ES 201 873).
* Expert knowledge in conformance testing.
* Expert knowledge in codec and adaptation layer development in C++.
* Expert knowledge in Titan TTCN-3 execution framework and architecture.
 |

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| --- | --- |
| **Task 5** | **Final deliveries update and prepare for publication** |
| **Objectives** | Update ITS test specifications to resolve all issues found during the validation phase. |
| **Input** | Base specification documentsDeliveries D1-D3Validation results |
| **Output** | Final drafts presented to TC ITS |
| **Interactions** | Report to TC ITS and TC ITS Working Groups as appropriate on the work of the TTF |
| **Resources required** | * Knowledge of ETSI TS 303 613.
* Expert knowledge of ITS test specifications.
* Expert knowledge of ITS technologies and implementations.
* Expert knowledge of TTCN-3 (ES 201 873).
* Expert knowledge in conformance testing.
 |

## Milestones

|  |  |  |
| --- | --- | --- |
| **Milestone** | **Description** | **Cut-Off Date** |
| **A** | **Progress Report approved by TC ITS and early draft of the D1-D2 made available** | 2023-01-20 |
| TC ITS | Early drafts of D1-D2 made available to TC ITS |
| ETSI Deliverable | Progress Report approved by TC ITS |

|  |  |  |
| --- | --- | --- |
| **Milestone** | **Description** | **Cut-Off Date** |
| **B** | **Progress Report approved by TC ITS and stable draft of the D1-D2 made available. Early draft of the D3 made available** | 2023-08-31 |
| TC ITS | Stable drafts of D1-D2 made available to TC ITSEarly draft of D3 made available to TC ITS |
| ETSI Deliverable | Progress Report approved by TC ITS |

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| --- | --- | --- |
| **Milestone** | **Description** | **Cut-Off Date** |
| **C** | **Final Report and final drafts of the D1-D3 approved by TC ITS** | 2023-11-30 |
| TC ITS | Final drafts made available and approved by TC ITS |
| ETSI Deliverable | Final Report approved by TC ITS |

|  |  |  |
| --- | --- | --- |
| **Milestone** | **Description** | **Cut-Off Date** |
| **D** | **Deliverables published, TTF closed** | 2023-12-31 |
| TC ITS | Deliverables published, TTF closed |
| ETSI Deliverable | Deliverables published, TTF closed |

## Task summary

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Code** | **Task / Milestone**  | Target Date | CTI effort | Expertise effort | Estimated Cost (EUR) |
| From | To |
|  | Start of work |  |  |  |  |  |
| T0 | Project Management | 2022-10-10 | 2023-12-31 | 100% |  |  |
| T1 | Testing technical specifications development | 2022-10-10 | 2023-08-31 | 50% | 50% | 10 000 |
| Milestone A | Progress Report approved by TC ITS and early drafts of D1-D2 made available |  | 2023-01-20 |  |  |  |
| T2 | Conformance validation framework update | 2023-01-10 | 2023-11-30 | 25% | 75% | 5 000 |
| T3 | TTCN-3 code development | 2023-01-10 | 2023-08-31 |  | 100% | 15 000 |
| Milestone B | Progress Report approved by TC ITS and stable draft of the D1-D2 made available. Early draft of the D3 made available |  | 2023-08-31 |  |  |  |
| T4 | Validation of the Framework | 2023-09-01 | 2023-11-01 |  | 100% | 10 000 |
| T5 | Final deliveries update and prepare for publication | 2023-11-01 | 2023-11-30 | 100% |  |  |
| Milestone C | Final Report and final drafts approved by TC ITS  |  | 2023-11-30 |  |  |  |
| Milestone*D* | Deliverables published, TTF closed |  | 2023-12-31 |  |  |  |
|  |  | **40 000** |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **2022** |  | **2023** |
| **Task/ Mil.** | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** |  | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** |
| T0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MA |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MB |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MB |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

# Expertise required

## Team structure

(Up to) 3 participants to ensure the following mix of competences:

|  |  |
| --- | --- |
| **Priority** | **Qualifications and competences** |
| High | Deep knowledge of C-ITS specific Functional requirements  |
| High | Deep understanding of MBR Functional requirements |
| High | C-ITS System architecture and facilities layer functions |
| High | Expert knowledge of ITS Security technologies and implementations |
| High | Expert knowledge of TTCN-3 (ES 201 873) |
| High | Expert knowledge in conformance testing |
| High | Expert knowledge in Titan TTCN-3 execution framework and architecture. |
| High | Project management skills are required for the TTF leader who will be responsible for Task-1 |

Part IV: TTF performance evaluation criteria

# Performance Indicators

|  |
| --- |
| **Quality of deliverables** |
| Approval of deliverables according to schedule | **X** |
| Respect of time scale, with reference to start/end dates in the approved ToR | **X** |
| Comments from Quality review by Reference Body | **X** |
| Comments from Quality review by ETSI Secretariat | **X** |
| **Contribution from the TTF to ETSI work** |  |
| Contributions to Reference Body meetings (number of documents / meetings / participants) | 2-3 meetings |

# Document history

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Date** | **Author** | **Status** | **Comments** |
| 0.0 | 2022-07-18 |  |  |  |
| 1.1 | 2022-07-20 | SWC | Final | For approval and submission |
| 1.2 | 2022-08-01 | ETSI Secretariat | Final | Update before CL publication |
| 1.3 | 2022-09-09 | ETSI Secretariat | Final | Final after IKOM and CL publication |

Annex I Response to the Request for Proposals
CfE (22)\_3874 – TTF T024 (REFERENCE BODY TC ITS) Deadline: 03/10/2022

|  |
| --- |
| **Contractor information \*** |
|  |
| **Contractor name \*:***Indicate the Company/Organization Name* |  |
|  |
| **Contact person for the technical aspects** | **Contact person for Decision on ETSI financial offer to this project (if any)** |
| Title |  | Title |  |
| First name |  | First name |  |
| Last name  |  | Last name  |  |
| Role |  | Role |  |
| e-mail |  | e-mail |  |
| Phone |  | Phone |  |
|  |
|  | **Yes** | **No** |
| Do you or any employee of your Company/Organization hold an elected or appointed position in the Reference Body requesting the  T024 creation? | oIndicate in which position:----------------------------------- | o |
| **If you are self-employed candidate:**Do you currently have other contracts in progress with ETSI? | o | o  |

All fields marked with an asterix (\*) are mandatory

**1.1 Introduction**

A short presentation of the technical structure responsible for this activity, e.g.:

* Business area, number of employees, link to WEB site,
* Department(s)/team(s)/experts in charge of the technical activities related to this Project,
* Reference to products/services of your Company/Organization or supporting Member to which the standards developed by this Project will apply,
* Motivation for your Company/Organization or supporting Member to participate in this Project.

**1.2 Proposed approach**

**Proposed contribution to tasks & related cost**

Identify the tasks to which your Company/Organization is proposing to contribute by filling-in the table below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tasks\_No** | **Tasks\_Description** | **Max\_Budget\_Allocated\_in\_Euro** | **Amount\_in\_Euro\_(mandatory)** | **%\_of\_whole\_Task\_(mandatory)** |
| T0 | Project Management | Managed by ETSI-CTI |
| T1 | Testing technical specifications update | 10 000 |  |  |
| T2 | Conformance validation framework update | 5 000 |  |  |
| T3 | Develop the TTCN-3 code | 15 000 |  |  |
| T4 | Validation of the Framework | 10 000 |  |  |
| T5 | Final deliveries update and prepare for publication | Managed by ETSI-CTI |
| **Total** |  | **40 000** |  |  |

**Amount in Euro (mandatory)**: Indicate the price offered for your contribution to the task(s)

**% of whole task (mandatory)**: Indicate to which percentage of the execution of the whole task your offer corresponds

Provide a description of the proposed approach, competences, reference to related activities:

* Explain which part of the task is corresponding to the requested percentage that your Company/Organization will handle,
* Explain the scope that your Company/Organization will cover,
* Explain your approach to the management of the quality and,
* Explain your approach to the management of the risks and their mitigation,
* Describe and justify the proposed costs to achieve this project objectives.

Annex II Terms and Conditions
CfE (22)\_3874 – TTF T024 (REFERENCE BODY TC ITS) Deadline: 03/10/2022

**2.1 Submission of Proposals**

All proposals in response to this CfE shall be submitted before the deadline indicated in thisCollective Letter, using exclusively the WEB application on the ETSI Portal at the following address: <https://portal.etsi.org/cfe>.

Proposals shall be composed of Curriculum Vitae of the proposed service providers’ personnel and the Annex I of this CfE duly filled-out.

Proposals that will be partial or incomplete at the deadline will not be accepted.

The Terms and Conditions in this Annex will apply.

**2.2 Modification and Withdrawal of Proposals**

Applicants may, without prejudice to themselves, modify or withdraw their proposal by written request, provided that the request is received by ETSI prior to the due date and time, at the address to which their proposal was submitted. The applicant may submit a new proposal provided that such new proposal is received prior to the deadline for responding which is specified in this Collective Letter.

**2.3 Assessment of Proposals**

The ETSI Director-General, in consultation with the Reference Body Chairman, is responsible for the selection of the service providers that will be contracted to perform this Project work. The ETSI Director-General and the Reference Body Chairman may be assisted by a Selection Panel to assess the applications received and make the final decision.

As per article 1.10.4 of the ETSI Directives, the Director-General may discard proposals that could be identified as creating potential conflict of interest.

The ETSI Secretariat will only communicate to the applicants the result of the selection (accepted or not accepted). Should applicants need more information on the rationale for the selection, they must address a formal request to the ETSI Director-General.

The following evaluation criteria will be applied to all proposals, in order of priority:

* Evidence that the applicant has the necessary structure and expertise to ensure delivery
* Reference to current or previous activities in the specific technical domain of this project
* Critical review of the most efficient way to achieve the objectives in this Project ToR
* Effective proposed approach/methodology for the execution of the tasks
* Implementation schedule
* Clear pricing policy

Compliance with the first two (2) criteria is mandatory.

Proposals that are not considered compliant with these criteria will be discarded.

Priority will be given to technical quality of the proposals. Pricing considerations will be taken into account to ensure that the best value for money is achieved. Compatibility with the maximum budget allocated to this Project will be verified before placing a Service Contract.

Following the assessment process, ETSI reserves the right to grant contracts to other than the cheapest proposals, to accept or reject any offer completely or in part, or to reject all proposals, without providing the reasons. If no offer is accepted, ETSI may decide to abandon the work or proceed in any other manner ETSI may select.

**2.4 IPR and confidentiality Agreements**

The information provided in this CfE, as well as the fact that the applicant has received the CfE, is considered confidential and protected under copyright laws. The applicant may not discuss, share, or use the information in this CfE for any purpose other than the response to this CfE.

ETSI will not disclose the content of any proposals to other applicants or any other party, with the exception of the persons involved in the assessment process described in §2.3 above.

However, ETSI reserves the right to make use of the information provided in this proposal to improve this project definition for the purpose of this CfE or any other manner in which ETSI may decide to proceed to select the service providers.

If successful, the applicant will be required to sign a Service Contract, which includes IPR and Confidentiality clauses aligned with the relevant policies in the ETSI Directives.

**2.5 Preparation cost**

ETSI will not be responsible for any costs or expenses that the applicant may incur in preparing and/or submitting the proposal.

**2.6 Service Contract**

A Service Contract will be proposed to the applicants that will be selected to perform the work.

Details on the Terms and Conditions of this contract can be found on the ETSI Portal, at the following address: <https://portal.etsi.org/STF/STFs/Contracts.aspx>