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| --- |
| ToR STF 601 (Ref. Body SmartM2M) |
| Version: 1.1 |
| Author: Michelle Wetterwald – Date: 2020-07-31 |
| Last updated by: ETSI Secretariat – Date: 2020-11-02 |
| page 1 of 12 |

Terms of Reference –Specialist Task Force Proposal

STF 601 (Ref. Body TC SmartM2M)

Cross-domain usability of IoT devices for humans and machines

Summary information

|  |  |  |
| --- | --- | --- |
| Approval status | Approved by Ref. Body SmartM2M on 2020-09-02(doc ref: SmartM2M(20)000077r4)  | **YES** |
| Approved by Board#129 (22 September 2020) | **YES** |
| Reference Body | Ref. Body TC SmartM2M |
| ETSI Funding | **Maximum budget: 59 400 EUR (52 400 +7 000 travel)** |
| Minimum of 4 ETSI Members Support | **YES** |
| Time scale | **From** | 2021-02-01 |
| **To** | 2022-07-22 |
| Work Items  | *List and date of the WI creation** *D1: DTR/SmartM2M-103778 (TR 103 778) “SmartM2M; Use cases for cross-domain usability of IoT devices”*
* *D2: DTS/SmartM2M-103779 (TS 103 779) “SmartM2M; Requirements and Guidelines for cross-domain usability of IoT devices”*

*approved on 2 September 2020*  |
| Board priority | [ETSI STF funding criteria](https://portal.etsi.org/STF/STFs/Funding/ETSIbudget.aspx)

|  |  |
| --- | --- |
| **Priority Criteria** |  |
| Maintenance of standards in mature domains |  |
| Innovation in mature domains |  |
| Emerging domains for ETSI | X |
| Horizontal activities (quality, security, etc.) | X |
| Societal good / environmental |  |

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Part I – STF Technical Proposal

# Rationale & Objectives

## Rationale

Usability of the data and services that the IoT devices and platforms deliver is a key issue not yet addressed. In fact, a few standards on usability exist but they are only based on the user experience or the accessibility of the ICT equipment. For addressing the Usability of the data and services that the IoT devices and platforms deliver an effective Knowledge Representation should be employed to enable it at the two fundamental levels: the first one for the organization of the information itself, the second level for the information presentation. To be able to achieve those IoT usability objectives AI employment is required.

The objective of this IoT usability proposal, while addressing the gap referred above, complements well the other AI TC SmartM2M activities underway, as cited in the ETSI White Paper “Artificial Intelligence and future directions for ETSI” - these activities including both the consideration of the use of AI in IoT systems for semantic interoperability and for the development process of ontologies themselves - in particular the SAREF family of ontologies -, as well as the addressing of opportunities for improving AI systems performance through the use of oneM2M.

In more details, usability has been identified as a gap in the results of [STF 505](https://portal.etsi.org/STF/STFs/STF-HomePages/STF505) TR 103 376 “SmartM2M; IoT LSP use cases and standards gaps“ (Tools to enable ease of installation, configuration and personalization; usability and convenience in Table 58, usability and customization of the solutions: to address different market sub-segments and simplify their usage by the large public in clause 9.4). The outcome of the standardization gap analysis performed by AIOTI in 2019 ([High Priority IoT Standardisation Gaps and Relevant SDOs, release 2](https://aioti.eu/wp-content/uploads/2020/01/AIOTI-WG3-High-Priority-Gaps-v2.0-200128-Final.pdf), January 2020) has shown that this gap is not yet covered (see section 6.8 of the report).

A few standards on usability exist, such as ISO 9241 or ETSI EN 301 549 but they are based on the user experience (ergonomics) or the accessibility of the ICT equipment. Due to the massive introduction of IoT devices, the usability topic should also be considered from a data and service point of view, i.e. usability of the data and services that the IoT devices and platforms deliver.

IoT technologies are one of the technologies which are contributing to the digital transformation of many verticals, together with big data and Artificial Intelligence. Standardizing the usability of data and services from IoT devices and platforms would have a strong impact on these two technologies. Indeed, usability can be considered as a consumer and an enabler of AI, as follows:

* Making use of AI for knowledge presentation and management (organization and visualisation) for both machines and humans;
* Improving configuration and management tasks at IoT devices and platforms increases the reliability of the data used by AI.

Note that knowledge representation is reflected in ontologies, limited or extended by their domain specific availability.

## Objectives of the work to be executed

* The objective of this work is to cover a missing key link of the IoT eco-system chain.
* The work should identify use cases where the IoT data and services require usability specifications. The data that IoT devices and platforms provide should be easily accessed, understood and acted upon by a large non-technical public in the case of humans (e.g. medical teams and their patients in the medical sector, mechanics in the automotive sector, first responders in the emergency sector, etc.) and by machines and processes when the data are fed to the AI components of a system (e.g. machine learning).
* This also means that the IoT technologies, devices and platforms themselves can be trustily used according to their initial objectives (e.g. easy installation, configuration, operation and maintenance).
* Based on these use cases, requirements and guidelines should be derived towards a horizontal cross-domain standard, with the specification of minimum requirements for usability of professional and general public IoT services, whether they are critical or not.

## Previous funded activities in the same domain

SmartM2M did not received STF support on usability and IoT. Usability was identified as a standardization gap by AIOTI WG03 high priority gaps Task Force in 2019.

## Market impact

The lack of usability in IoT has been identified as one of the high priority standardisation gaps in the AIOTI study (see section 1.1 above). Filling this gap would increase trust in services depending of IoT data. By removing a blocking factor, this standard would be a market enabler for the IoT eco-system.

## Consequences if not agreed

* Proprietary and fragmentation of criteria from IoT vendors regarding the usability of IoT data: blocking factor for the IoT eco-system.
* Work would be delayed due to lack of investment from IoT stakeholders. This gap was identified by STF 505 in its final report (TR 103 376, November 2016) and not yet covered unlike other gaps, as reported during the AIOTI High priority gaps analysis performed in 2019.

# Relation with ETSI strategy and priorities

Relation with the objectives of the proposed activity and the Priority Criteria and provide a rationale [BOARD(19)123\_014]:

|  |  |
| --- | --- |
| **Priority Criteria** | **Rationale** |
| Maintenance of standards in mature domains |  |
| Innovation in mature domains |  |
| Emerging domains for ETSI | Yes.AI is an emerging domain. Usability is an essential component of IoT to assure the use of ETSI Standards and is a new standardization domain for ETSI. |
| Horizontal activities (quality, security, etc.) | Yes.The STF proposes a horizontal standard on Usability for IoT data and services, that may be reused also by other TCs. |
| Societal good / environmental |   |

# ETSI Members Support

|  |  |  |
| --- | --- | --- |
| **#** | **ETSI Member** | **Supporting delegate** |
| 1 | FBConsulting S.A.R.L. | Michelle Wetterwald |
| 2 | TELECOM ITALIA S.p.A. | Enrico Scarrone |
| 3 | Huawei Technologies Sweden AB | Francisco Da Silva |
| 4 | BMWi | Markus Maas |
| 5 | Facultad de Informatica, Universidad Politecnica de Madrid | Raúl García-Castro |
| 6 | Institut Mines-Telecom | Maxime Lefrançois, Marc Girod Genet |

# Deliverables

## Base documents

|  |  |  |
| --- | --- | --- |
| **Document** | **Title** | **Status** |
| ETSI TR 103 375 | SmartM2M; IoT Standards landscape and future evolutions | Published |
| ETSI TR 103 376 | SmartM2M; IoT LSP use cases and standards gaps | Published |
| AIOTI Report gaps Task Force | High Priority IoT Standardisation Gaps and Relevant SDOs, Release 2.0, Alliance for Internet of Things Innovation (AIOTI), January 2020 | Published |
| ISO 9241 | Ergonomics of human-system interaction (multi-part standard) | Published |
| ETSI EN 301 549 | Accessibility requirements suitable for public procurement of ICT products and services in Europe | Published |
| ETSI TR 118 501 | oneM2M Use Cases selection | Published |
| IEEE Communications Survey | Deep Learning in Mobile and Wireless Networking: A Survey (IEEE Communications Surveys & Tutorials, March 2019)<https://arxiv.org/abs/1803.04311> | Published |
| ETSI GS ENI 001 | Experiential Networked Intelligence (ENI); ENI use cases | Published |
| EC White Paper | EC WHITE PAPER On Artificial Intelligence -A European approach to excellence and trust, February 2020, <https://ec.europa.eu/info/sites/info/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf> | Published |
| ETSI White Paper | [Artificial Intelligence and future directions for ETSI](https://www.etsi.org/images/files/ETSIWhitePapers/etsi_wp34_Artificial_Intellignce_and_future_directions_for_ETSI.pdf) | Published |
| ITU-T, FG ML5G use cases | Machine learning in future networks including IMT-2020: use cases" (ITU-T, Supplement 55 to Y.3170 Series, October 2019) | Published |

## New deliverables

|  |  |  |  |
| --- | --- | --- | --- |
| **Deliv.** | **Work Item code****Standard number** | **Working title****Scope** | **Expected date for publication** |
| D1 | DTR/SmartM2M-103778 (TR 103 778) | Working title: SmartM2M; Use cases for cross-domain usability of IoT devicesScope: * to identify, select and describe use cases where the IoT data and services require usability specifications
* to analyse the impact of these use cases for both machines and humans
 | 2021-12-10 |
| D2 | DTS/SmartM2M-103779 (TS 103 779) | Working title. SmartM2M; Requirements and Guidelines for cross-domain usability of IoT devicesScope:* to define minimum requirements for data and services usability on professional and general public IoT devices and platforms, whether they are critical or not
* to develop a horizontal cross-domain specification encompassing these requirements
 | 2022-06-10 |

Work Items’ Schedule

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **D1** [**'DTR/SmartM2M-103778'**](https://portal.etsi.org/webapp/workProgram/Report_WorkItem.asp?wki_id=61434)**Work Item Schedule**

|  |  |  |
| --- | --- | --- |
|  | **Milestone** | **Target** |
| **0** | Creation of WI by WG/TB | 2020-09-02 |
| **0a** | TB adoption of WI | 2020-09-08 |
| **1** | Start of work | 2021-02-01 |
| **2** | Early draft | 2021-04-15 |
| **4** | Stable draft | 2021-07-30 |
| **6** | Final draft for approval | 2021-09-27 |
| **8** | TB approval | 2021-10-29 |
| **8A** | Draft receipt by ETSI Secretariat | 2021-11-12 |
| **12** | Publication | 2021-12-10 |

 | **D2** [**'DTS/SmartM2M-103779'**](https://portal.etsi.org/webapp/workProgram/Report_WorkItem.asp?wki_id=61435)**Work Item Schedule**

|  |  |  |
| --- | --- | --- |
|  | **Milestone** | **Target** |
| **0** | Creation of WI by WG/TB | 2020-09-02 |
| **0a** | TB adoption of WI | 2020-09-08 |
| **1** | Start of work | 2021-07-01 |
| **2** | Early draft | 2021-10-01 |
| **4** | Stable draft | 2022-01-31 |
| **6** | Final draft for approval | 2022-02-15 |
| **8** | TB approval | 2022-04-29 |
| **8A** | Draft receipt by ETSI Secretariat | 2022-05-13 |
| **12** | Publication | 2022-06-10 |

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|  |  |

# Maximum budget

## Task summary/Manpower Budget

|  |  |
| --- | --- |
| **Task short description** | Budget (EUR) |
|
| Task 1: Project Management and coordination with other organizations | 8 400,00 |
| Task 2: Use cases related to -usability of IoT devices and their impacts for human users, including (non-technical ones)-usability of IoT device data and their impacts for machines and AI | 22 000,00 |
| Task 3: Specification of cross-domain usability of IoT devices | 22 000,00 |
| **TOTAL** | 52 400,00 |

## Travel budget

Travel cost for working sessions will be included in the contract compensation (manpower cost). Presentation of results to the reference TB and other TBs will be reimbursed as real cost from the travel budget.

|  |  |
| --- | --- |
| **Expected travels** | **Cost estimate** |
| Reference TB meetings (5 travels) | 3 000 € |
| Other ETSI TB / stakeholders’ meetings (3 travels) | 2 000 € |
| OneM2M (STF results contribution) (2 travels) | 2 000 € |
| **Total cost** | **7 000 €** |

## Other budget line

Not applicable

Part II – Details on STF Technical Proposal

# Tasks, Technical Bodies and other stakeholders

## Organization of the work

The technical work is developed in 3 main technical activities developed in 2 technical tasks covering

* use cases definition for humans,
* use cases definition for machines,
* Requirements and guidelines to support usability of IoT services and IoT data.

The 3 activities will start sequentially with partial overlap as described in the schedule.

It is anticipated that the majority of the work will be performed as drafting work remotely and electronically. Virtual meetings will be organized periodically for project management. Furthermore, a few additional face-to-face working sessions will be organized (Covid-19 permits), especially for clarification purposes with regard to the alignment of the various information sources and coordination of the technical results. It is planned to have around 3 face-to-face working sessions in total.

This STF should be performed under the guidance of TC SmartM2M, in liaison with TC HF and other groups as required (e.g. TC SmartBAN, EP eHEALTH and ISG E4P). Feedback on the use cases will also be requested to oneM2M RDM working group. The STF will take benefit of a Steering Group that is composed by the TC SmartM2M attendees, with the exception of the STF experts, but including the STF leader, and will meet during the regular TC SmartM2M meetings.

The Steering Group will correspond to the regular TC SmartM2M meeting (4 per year)

## Tasks for which the STF support is necessary

ETSI needs specific technical expertise that is not currently present within the associated technical committees. For example, these specialists will assist in identifying, consolidating or even creating ethical reports and specifications accordingly to the rationale above.

Therefore, under this proposed action ETSI will perform the work described above with the support of an ETSI Specialist Task Force (STF).

The work of this STF will be essential to aid the drafting and preparation of the required deliverables as rapidly as possible in order to maximise the resulting benefits and to publish the required standards that have been identified as standardisation gaps in previous studies.

## Other interested ETSI Technical Bodies

This STF fits in the AI activities that have been started at ETSI, as explained in section 1.1 "Rationale".

Liaising with TC HF would allow to receive advisory comments. Other groups would be consulted as required (e.g. TC SmartBAN, EP eHEALTH and ISG E4P). Feedback on the use cases will also be requested to oneM2M RDM working group.

Liaising with oneM2M for consultation during the definition of the use cases would allow to receive feedback about most important needs from the IoT environment.

## Other stakeholders

Liaising with AIOTI for consultation during the definition of the use cases would help to complement the ETSI view.

Part III: Execution of Work

# Work plan, time scale and resources

## Task description

|  |  |
| --- | --- |
| **Task #1** | **Project Management and coordination with other organizations** |
| **Objectives** | Provide appropriate development of the work in term of quality and timely delivery to ETSI TC SmartM2M |
| **Input** | ETSI secretariat for STF management, TC SmartM2M to steer, review and approve the technical work, other organizations inside / outside of ETSI, as described in section 6. |
| **Output** | STF progress reports, reports to TC SmartM2M (which is also the Steering Group), management of the STF activities and priorities, quality review. |
| **Interactions** | ETSI secretariat, TC SmartM2M, other groups as indicated in section 6, other relevant groups that may be identified during the development of the work. |
| **Resources required** | * STF management skills;
* Technical management skills and expertise in STF;
* Knowledge of IoT communications and use cases
 |

|  |  |
| --- | --- |
| **Task #2** | **Use cases related to usability of IoT devices and their impacts for humans** |
| **Objectives** | The objective of this task is to use the base documentation described in section 4.1 to:* identify, select and describe use cases where the IoT data and services require usability specifications for human (mainly) non-technical users (for example medical teams and their patients in the medical sector, mechanics in the automotive sector, first responders in the emergency sector, etc.)
* identify, select and describe use cases where the IoT data and services require usability specifications for machines consuming data for AI (for example machine learning). Enabling usability with AI approach will also be considered.
* analyse the impact of these use cases from the usability point of view.
 |
| **Input** | * Standards defining use cases related to IoT services (e.g. ETSI TR 118 501).
* Accessibility and ergonomics standards (see section 4.1)
* Other documents listed in Section 4.1
 |
| **Output** | Technical Report D1 (DTR/SmartM2M-103778) including: * a set of main use cases illustrating the impact of usability on IoT services;
* a formal description of the use cases identified and their impact.
 |
| **Interactions** | * ETSI TC SmartM2M, other ETSI committees and groups listed in section 6.3
* oneM2M Partnership Project
* AIOTI
 |
| **Resources required** | 2-3 experts with a good mix of:* Knowledge of IoT standards landscape
* Knowledge of IoT communications and use cases
* Understanding of user issues in the IoT environment
* Knowledge of AI techniques and architectures
* Experience in drafting ETSI Standards
* Experience of working in an international environment
 |

|  |  |
| --- | --- |
| **Task #3** | **Specification of cross-domain usability of IoT devices** |
| **Objectives** | The objective of this task is to progress from the results of Task 2 to:* define minimum requirements for usability of IoT data and services, whether they are critical or not.
* develop a horizontal cross-domain specification
 |
| **Input** | * D1 (DTR/SmartM2M-103778) (output of Task 2)
 |
| **Output** | Technical Specification D2 (DTS/SmartM2M-103779 ) including: * specification of horizontal requirements towards the usability of IoT devices
 |
| **Interactions** | * ETSI TC SmartM2M, other ETSI committees and groups listed in section 6.3
* oneM2M project
 |
| **Resources required** | 2-3 experts with a mix of:* Good knowledge of IoT standards landscape
* Expert knowledge of IoT communications and use cases
* Understanding of user issues in the IoT environment
* Good knowledge of AI techniques and architectures
* Experience in drafting ETSI Standards
* Experience of working in an international environment
 |

## Milestones

|  |  |  |
| --- | --- | --- |
| **Milestone** | **Description** | **Cut-Off Date** |
| **A** | Stable draft of D1 (DTR/SmartM2M-103778) accepted by TC SmartM2M and progress report approved by SmartM2M | 2021-07-30 |
| TC SmartM2M Deliverable | Stable Draft D1 (DTR/SmartM2M-103778) accepted by TC SmartM2M |
| ETSI Deliverable | Progress Report approved by TC SmartM2M  |

|  |  |  |
| --- | --- | --- |
| **Milestone** | **Description** | **Cut-Off Date** |
| **B** | Final draft of D1 (DTR/SmartM2M-103778) and progress report approved by TC SmartM2M | 2021-10-29 |
| TC SmartM2M Deliverable | Final draft of D1 (DTR/SmartM2M-103778) approved by TC SmartM2M |
| ETSI Deliverable | Progress Report approved by TC SmartM2M  |

|  |  |  |
| --- | --- | --- |
| **Milestone** | **Description** | **Cut-Off Date** |
| **C** | Stable draft of D2 (DTS/SmartM2M-103779) accepted by SmartM2M and progress report approved by TC SmartM2M | 2022-01-31 |
| TC SmartM2M Deliverable | Stable Draft D2 (DTS/SmartM2M-103779) accepted by TC SmartM2M |
| ETSI Deliverable | Progress Report approved by TC SmartM2M  |

|  |  |  |
| --- | --- | --- |
| **Milestone** | **Description** | **Cut-Off Date** |
| **D** | Final draft of D2 (DTS/SmartM2M-103779) and final report approved by TC SmartM2M | 2022-04-30 |
| TC SmartM2M Deliverable | Final draft of D2 (DTS/SmartM2M-103779) approved by TC SmartM2M |
| ETSI Deliverable | Final Report approved by TC SmartM2M  |

|  |  |  |
| --- | --- | --- |
| **Milestone** | **Description** | **Cut-Off Date** |
| **E** | Deliverables published, STF closed | 2022-07-22 |
| TC SmartM2M Deliverable | Deliverables D1 (DTR/SmartM2M-103778) and D2 (DTS/SmartM2M-103779) published |
| ETSI Deliverable | STF closed |

## Task summary

Note: The task schedule spans over 17 months. This allows to give sufficient time for the consultation of external TBs and organizations.

|  |  |  |  |
| --- | --- | --- | --- |
| **Code** | **Task / Milestone**  | Target Date | Estimated Cost (EUR) |
| From | To |
|  | Start of work | 01/02/21 |  |  |
| T1 | Project Management | 01/02/21 | 30/06/22 | 8 400,00 |
| T2 | -Use cases related to usability of IoT devices and their impacts for (non-technical) human users- Use cases related to usability of IoT device data and their impacts for machines and AI  | 01/02/21 | 29/10/21 | 22 000,00 |
| Milestone A | Stable draft of D1 (DTR/SmartM2M-103778) accepted by SmartM2M and progress report approved by SmartM2M |  | 30/07/21 |  |
| Milestone B | Final draft of D1 (DTR/SmartM2M-103778) and progress report approved by SmartM2M |  | 29/10/21 |  |
| T3 | Specification of cross-domain usability of IoT devices | 01/07/21 | 30/06/22 | 22 000,00 |
| Milestone C | Stable draft of D2 (DTS/SmartM2M-103779) accepted by SmartM2M and progress report approved by SmartM2M |  | 31/01/22 |  |
| Milestone D | Final draft of D2 (DTS/SmartM2M-103779) and final report approved by SmartM2M |  | 30/04/22 |  |
| Milestone E | Deliverables published, STF closed |  |  11/07/22 |  |
|  | **52 400,00** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Task/ Mil.** | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** |  | **J** | **F** | **M** | **A** | **M** | **J** | **J** |
| T1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T2 |  |  |  |  |  |  |  |  |  |  |  | P1 |  |  |  |  |  |  |  |  |
| MA |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MB |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |
| T3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | P2 |  |
| MC |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |
| MD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |
| ME |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |

P1 and P2 = Publication of D1 and D2 by SmartM2M (informative)

# Expertise required

## Team structure

The STF will consist of experts, which must be prepared to work in close cooperation to share the tasks under the guidance of the Steering Group (which is composed by the TC SmartM2M members).

One of the providers will act as STF Leader and will be responsible for the consolidation of the documentation, coordination of the STF activities and the provision of the required progress reports to TC SmartM2M that is also the Steering Group of this STF

The STF Leader as well as other providers must be able to perform the specific tasks defined in Section 7.1.

The participation of a maximum of 4 providers is envisaged to ensure the following mix of competences:

|  |  |
| --- | --- |
| **Priority** | **Qualifications and competences** |
| High | Knowledge of IoT communications and use cases |
| High | Understanding of user issues in the IoT environment |
| Medium | Knowledge of AI principles and techniques |
| Medium | Knowledge of IoT standards landscape |
| Medium | Knowledge of AI solutions and architectures |
| High | Experience in drafting ETSI Standards |
| Medium | Experience of working in an international distributed environment |
| Medium | Organizational skills, strong writing and reporting skills, creativity and capacity to work in a team and commitment to deliver |

Part IV: STF performance evaluation criteria

# Performance Indicators

|  |
| --- |
| **Select relevant Performance indicators applicable for these ToR (X)** |
| Contribution from ETSI Members to STF work |
| Direct financial contribution (co-funding) |  |
| Support to the STF work (e.g., provision of test–beds, organization of workshops, events) |  |
| Steering Group meetings (number of meetings / participants / duration) | X |
| Number of delegates directly involved in the review of the deliverables | X |
| Contributions/comments received from the Reference Bodies | X |
| Contributions/comments received from other Reference Bodies | X |
|  |  |
| **Contribution from the STF to ETSI work** |
| Contributions to Reference Body meetings (number of documents / meetings / participants) | X |
| Contributions to other Reference Bodies | X |
| Presentations in workshops, conferences, stakeholder meetings | X |
|  |  |
| **Liaison with other stakeholders** |
| Stakeholder participation in the project (category, business area) |  |
| Cooperation with other standardization bodies |  |
| Potential interest of new members to join ETSI |  |
| Liaison to identify requirements and raise awareness on ETSI deliverables  |  |
| Comments received on drafts (e.g. on WEB site, mailing lists, etc.) |  |
|  |  |
| **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 |
|  |  |

Time recording

For reporting purposes, the STF experts shall fill in the time sheet provided by ETSI with the days spent for the performance of the services

During the activity, the STF Leader will collect the relevant information, as necessary to measure the performance indicators. The result will be presented in the Final Report.

# Document history

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Date** | **Author** | **Status** | **Comments** |
| 0.0 | 2020-07-31 | Michelle Wetterwald | Draft | Developed by email and e-meetings on behalf of TC smartM2M |
| 0.1 | 2020-08-24 | Enrico Scarrone | Draft | Chairman revision for initial submission to STF Manager |
| 0.2 | 2020-08-27 | Enrico Scarrone | Draft | Further Chairman revision after the meeting of the 25th of August 2020 |
| 0.3 | 2020-08-28 | Raul Garcia/UPM and Patrick Guillemin/ETSI | Draft | Raul edits and Patrick review & edits |
| 0.4 | 2020-08-31 | Michelle Wetterwald | Draft | Minor edits. Extended base documents section. Completed milestones section.  |
| 0.5 | 2020-09-01 | Enrico Scarrone | Draft | Minor edits (section 2). |
| 0.6 | 2020-09-02 | Enrico Scarrone | Approved | Version including comments edited during SmartM2M dedicated meeting held on 2nd September 2020. |
| 0.7 | 2020-09-03 | Enrico Scarrone | Approved | Final editorial revision, WI references inserted. |
| 0.8 | 2020-09-04 | Patrick Guillemin | Approved | Verified final NWI + edits |
| 0.9 | 2020-09-07 | ETSI Secretariat | Draft | Update before submission to Board  |
| 1.0 | 2020-10-12 | ETSI Secretariat | Draft | Update of new Work Item reference of TR and TS & editorial updates, adjustment of the real Work item schedule D1 11/11/2021 instead of 31/07, D2 10/06/2022 instead of 30/03 end of project on 11/07/2022 instead of 31/05 |
| 1.1 | 2020-11-02 | ETSI Secretariat | Board Approved | Update before CL publication |