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| ETSI_logo_Office_Colour_Small | ***ToR STF DP (TC SmartM2M)*** |
| Version: 0.4 |
| Author: SmartM2M – Date: 7 March 2019 |
| Last Updated by: Youssouf Sakho. Date: 29 April 2019 |
| page 1 of 16 |

Terms of Reference - Specialist Task Force

STF DP (TC SmartM2M)

“Specification of the SAREF development framework and workflow, and development of the Community SAREF Portal for user engagement”

**Summary information**

|  |  |
| --- | --- |
| Approval status | * **SmartM2M(19)000034r1** finalized version of previously TB Approved (edited from SmartM2M(19)000007r2 by ETSI) * Before that, SmartM2M(19)000007 has been uploaded and discussed on 7 March during SmartM2M#49, SmartM2M(19)000007r1 adopted during 15 April SmartM2M Ordinary Meeting, and SmartM2M(19)000007r2 (RC approved with [SmartM2M(19)DEC072](javascript:__doPostBack('lvTB$ctrl0$lvRemoteConsensusInfo$ctrl1$lnkViewRelatedContributions',''))) finalised by ETSI/Patrick Guillemin with TC SmartM2M support before ETSI Secretariat deadline of 28 April 2019 * For OCG/Board consultation by correspondence (2 weeks) between 30 April to the 15 May 2019, * Approved by Board#123 (12 June 2019)   NOTE: this STF is a continuation of the work started in STF 556 corresponding to a part of the work that has been **postponed from the previous STF budget allocation** |
| Funding | **Maximum budget: 55 000 € ETSI FWP** |
| Time scale | August 2019 to September 2020 |
| Work Items | * [**DTS/SmartM2M-103673**](https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=57865) **(SmartM2M; SAREF Development Framework and Workflow, Streamlining the Development of SAREF and its Extensions)** |
| Software | * **Two deliverables will be software that will belong to** [**ETSI CTI**](http://www.etsi.org/about/how-we-work/testing-and-interoperability/centre-for-testing-and-interoperability) **(Centre for Testing and Interoperability), and will also be available for reuse in other TBs** |
| Board priority category | “Emerging-domains for ETSI” and “Standards enablers/facilitators (conformance testing, interoperability, methodology)” |

Part I – Reason for proposing the STF

# Rationale

ETSI SmartM2M tackles IoT, interoperability, and Semantic Interoperability challenges, contributing to the digital transformation of industry sectors in Europe. The SAREF standard ontology is a key flagship to reach semantic interoperability in IoT and Web-based applications where digitized assets play a central role. The first version of SAREF (now Smart Applications REFerence ontology) was published in November 2015 by ETSI TC SmartM2M, and subsequent extensions are being developed to describe digital assets for various domains including energy, environment, building, agriculture, smart city, automotive, wearables, eHealth/ageing-well, water.

The STF 556 (Consolidation of SAREF and its community of industrial users, based on the experience of the EUREKA ITEA 12004 SEAS project, <https://portal.etsi.org//STF/STFs/STFHomePages/STF556>) developed [DTR/SmartM2M-103608 (TR 103 608)](https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=54480) that shall be published mid July 2019 and containing the requirements for the SAREF ontology portal and the SAREF ontology publication framework (gather requirements), reinforcing the engagement of its community of users.

**The value of SAREF is strongly correlated with the size of its community of users, and also to the agility of the SAREF developers to improve the SAREF ontology and react to raised issues. As such, SAREF users’ community and the industry actors need be attracted to SAREF with clear Web documentation and a clear indication about how to provide their input and the kind of input that they can provide.**

The ETSI members that contribute to SAREF need to be able to get feedback from the open community of industrial users, to speed up the evolution of the current and future extensions and reduce the costs of developing these extensions. That being said, the development of SAREF must remain in ETSI's hands to ensure high quality standards are met. The publication and/or use of such feedback must therefore be controlled by ETSI, but the possibility to provide feedback will be open to the world.

**The work in this STF is to specify the SAREF development framework and workflow to speed up the development of SAREF and its extensions, and to develop the ETSI software that will be used to generate the ontology portal content from the sources of SAREF on the ETSI forge** <https://forge.etsi.org/> **Furthermore the new ontology portal to develop will include interaction capabilities (feedbacks and bug reporting, etc) to enable the SAREF community of users to provide their feedbacks and proposals**.

**The final vision is to make the business community able to provide their input to SAREF and to maintain SAREF without the need of a special support from ETSI, but just with a revision from the ETSI members, and in particular from SmartM2M.**

**The tool in its instantiation is made for SAREF at first, but in the future can be used by other TBs for other ontologies.**

# Objective

The development of the SAREF ontology and its extensions needs to be streamlined using DevOps techniques, including the extensive use of the functionalities that can be offered by the ETSI Forge and the ETSI Continuous Integration and Continuous Deployment tools. A SAREF ontology portal needs to expose the SAREF ontology as a modular ontology, versioned~~, with all the terms it defines having the same namespace~~. The two latter choices avoid existing implementations to break when new versions are released, or when new editorial choices are made. In addition to this, all the metadata and publication best practices should be met, and the documentation webpages should be harmonized and adapted to target SAREF users instead of ontology engineers. The proposed STF aims at implementing software to satisfy these requirements, so as to make the adoption of SAREF faster for software engineers and domain experts.

To that end, the STF will produce one Technical Specification and 2 Software.

The STF will produce one Technical Specification, with the scope to define the development workflow of SAREF based on the ETSI forge. The development workflow defines the different types of issues (labels), the development workflow (branches and merge requests) and the decision process for accepting merge requests by the SmartM2M board. This deliverable will enable the SAREF developers to speed up the development of SAREF and its extensions.

Then, the first software will generate the portal content from the SAREF sources and the different versions of SAREF. The portal will contain uniform documentation for SAREF and its extensions such that the documentation will be designed for domain experts and software developers instead of ontology engineers. This deliverable will enable industries to implement solutions faster with SAREF.

Finally, the second software will enable interaction functionalities on the portal, so that: (1) industries can like or share the content, provide useful feedback to SAREF developers and suggest additions/modifications. (2) SAREF developers can know more about the SAREF community of users. This deliverable will reinforce the engagement of the community of users, and enable the SmartM2M to get insight on the use of SAREF.

# Relation with ETSI strategy and priorities

Smart Appliances activities were already identified as one of the ETSI 2015 Strategic Topics, as a result of an EC proposal made to the ETSI Board. Subsequently, an ad hoc group on the Strategic Topic “Smart Appliances” was created to ensure that the organisational aspects of the Smart Appliances activities would allow in particular for open, full and equitable cross-industry participation. In close co-ordination with the EC (DG CNECT), the group launched and further strategically conducted the standardization activity in ETSI on this new technological area.

Smart Applications REFerence ontology (SAREF) evolution and this proposed STF are in line with the two ETSI Board strategic priorities/categories “Emerging-domains for ETSI” and “Standards enablers/facilitators (conformance testing, interoperability, methodology)”.

# Context of the proposal

## ETSI Members support

|  |  |  |
| --- | --- | --- |
| **ETSI Member** | **Supporting delegate** | **Motivation** |
| Huawei Technologies Sweden AB | Francisco da Silva | - The design and development of the SAREF publication framework to reinforce the engagement of its community of users and enable them to implement solutions with SAREF faster.  - Because SAREF provides a connection to vertical industries and also to oneM2M. |
| TELECOM ITALIA S.p.A. | Enrico Scarrone | The Saref portal is necessary to collect the requirements from the sector stakeholders and finalize their engagement. It also streamline the process of development of SAREF and position ETSI at European level on the topic. |
| ORANGE | Fano Ramparany | - good capitalization from European project experience, with input from first tier industry partners  - responds to the need to reengineer SAREF in order to make it more consistently extensible and evolvable, while taking into account alignment with CIM and oneM2M ontologies  - proposal comes from a team with impeccable credentials and a widely recognized track record of research in semantics |
| Institut Mines-Telecom | Noel Crespi | In particular because of its modularity and applicability to multiple verticals.  It includes the addition of core SEAS ontologies to SAREF, and some of the extensions that have been developed during the SEAS project and after. It also includes an important work to design and develop the new publication and documentation website for the SAREF ontology and its extensions, such that: (1) the documentation is designed for domain experts and software developers instead of ontology engineers, (2) industries can like or share the content, provide useful feedback to SAREF developers and suggest additions/modifications. Additionally, SAREF developers would get to know more about the SAREF community of users. This deliverable will enable industries to implement solutions with SAREF faster. It will reinforce the engagement of the community of users such that the SAREF developers can plan new evolution of the current and future extensions |
| Facultad de Informatica | Raúl García Castro | To support the development of the IoT market via the diffusion of the SAREF family of standards. As developers of ontology engineering infrastructure, to support the creation of a community-oriented portal for the development and maintenance of the SAREF ontology and its extensions. |
| TNO | Laura Daniele | The SAREF family of ontologies has received considerable attention in the past years and its community of users is growing fast, especially in domains such as energy and smart cities. The governance of SAREF and its extensions has now become crucial for the future of SAREF and its community. However, the current mechanisms used in ETSI to create, maintain and evolve the SAREF extensions remain unclear to the stakeholders, who often do not understand how to provide feedback and get involved in the process. This STF will provide the environment and the tools for the SAREF users to get actively involved and contribute to its evolution. |
| Deutsche Telekom AG | Thomas Kessler | IoT devices of all vertical domains will be interoperable only if the SAREF ontology and the oneM2M communication framework is widely adopted by the industry. This can be achieved by the SAREF portal which attracts and involves a large community of users in order to improve the development and maintenance of the SAREF ontology and its extensions. It also enhances the visibility and raises the awareness of the SAREF ontology among the stakeholders, the users and other standardization fora. |
| Nokia Belgium | Omar Elloumi | SAREF provides a convergence path for IoT ontologies. The approach would need to be inclusive to allow feedback and evolutions from all stakeholders. |
| FBConsulting | Michelle Wetterwald | It will enable the development of the SAREF ontology and the spread of standardised data interoperability solutions between vertical domains. |

Additional Support from external/non-ETSI members companies and institutions

|  |  |  |
| --- | --- | --- |
| IK4-Tekniker | Francisco Javier Diez | On behalf of IK4-Tekniker, I would hereby like to express our support to the ETSI Specialist Task Force (STF): “Specification of the SAREF development framework and workflow, and development of the Community SAREF Portal for user engagement”. |
| Université Côte d'Azur | Catherine Faron Zucker | I support the new STF "Specification of the SAREF  development framework and workflow, and development of the Community SAREF Portal for user engagement". I believe that the development of the SAREF ontology is a keystone to reach semantic interoperability in IoT. |

## Market impact

The availability of a network of standardized semantic models that consistently grow and systematically extend SAREF within TC SmartM2M in ETSI will allow implementers and manufacturers of Smart Appliances/Smart Applications - and more in general IoT devices - to fully support various, multiple and cross-domain use cases for their devices. It will enhance the interoperability between their devices and the devices of other manufacturers and will allow them to broaden their market.

The overall deployment of Smart Applications and IoT devices will directly lead to a quick adoption of the related IoT/M2M ETSI standards as developed by oneM2M. These standards potentially address a multi-billion product market.

The development of the SAREF publication framework will reinforce the engagement of its community of users, enabling industries to implement solutions with SAREF. Also, SAREF developers will get to know more about the SAREF community of users, which will help measuring the impact of SAREF, and planning new evolution of the current and future extensions

## Tasks for which the STF support is necessary

The development of the specification and the software solutions is related to ontologies, therefore the ETSI IT does not have sufficient members and skills to develop them on time, with the required high quality that only the use of ETSI recommended methodologies may bring. Technical and Semantic Web competences are required to specify the SAREF development workflow, and to develop the SAREF portal.

## Related voluntary activities in the TB

The ETSI Members supporting the creation of the STF are committed to supporting this STF in terms of participation in the STF Steering Group, providing input and review to the STF at the Steering Committee and the TC SmartM2M meetings.

## Previous funded activities in the same domain

STF 513 - Three extensions of SAREF for the following domains:

* Energy demand & response: SAREF4ENER
* Building: SAREF4BLDG
* Environment: SAREF4ENVI

STF 534 - Three extensions of SAREF for the following domains:

* Smart City SAREF4CITY
* AgriFood: SAREF4AGRI
* Industry & Manufacturing: SAREF4INMA

EU STF 566 – Four extensions of SAREF for the following domains:

* eHealth/ageing-well SAREF4EHAW
* Wearables SAREF4WEAR
* Automotive SAREF4AUTO
* Water SAREF4WATR

STF 556 – Consolidation of SAREF and its community of industrial users, based on the experience of the EUREKA ITEA 12004 SEAS project.

* Design of ontology patterns
* Requirements for the SAREF portal

NOTE: The present STF is a continuation of the work started in STF 556 **corresponding to a part of the work that has been postponed from the previous STF budget allocation**. The starting point for the present STF is therefore [DTR/SmartM2M-103608 (TR 103 608)](https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=54480) to be published mid July 2019 and developed in the context of STF 556, which defines requirements for the SAREF portal.

## Consequences if not agreed

If the publication framework of SAREF is not quickly redesigned, its learning curve may be too steep for software engineers and domain experts, issues cannot be raised to help SmartM2M members keep up enhancing SAREF, existing implementations may break when new versions are released, or when new editorial choices are made. This may have a strong negative impact on the adoption or retain of the ETSI SAREF standard and consequently on the adoption of the oneM2M IoT communication framework.

Part II – Execution of the work

# Technical Bodies and other stakeholders

## Reference TB

TC SmartM2M

## Other interested ETSI Technical Bodies

## Other stakeholders

* [ETSI CTI](http://www.etsi.org/about/how-we-work/testing-and-interoperability/centre-for-testing-and-interoperability) (Centre for Testing and Interoperability)
* European Commission

# Base documents and deliverables

## Base documents

|  |  |  |
| --- | --- | --- |
| **Document** | **Title** | **Stable draft** |
| [DTR/SmartM2M-103608 (TR 103 608)](https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=54480) | SAREF publication framework reinforcing the engagement of its community of users | Latest contribution SmartM2M(19)050004, document status stable draft version v0.1.0,  <https://docbox.etsi.org/SmartM2M/SmartM2M/70-Draft/00103608/SmartM2M-103608v010.docx>  Publication of TS 103 608 V1.1.1 is expected mid July 2019 |

## Deliverables

The STF will produce the deliverables D1, SW1 and SW2. Deliverables SW1 and SW2 are software solutions that will belong to ETSI CTI and will also be available for re-use by other ETSI TBs. The deliverable D1 is a TC SmartM2M Technical Specification.

|  |  |  |
| --- | --- | --- |
| **Deliv.** | **Work Item code**  **Standard number** | **(Title)**  **Working title**  **Scope** |
| D1 | [DTS/SmartM2M-103673 (TS 103 673)](https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=57865) | **Title:** SAREF Development Framework and Workflow, Streamlining the Development of SAREF and its Extensions  **Working Title**: SAREF Development Framework and Workflow  **Scope**: To define the development workflow of SAREF based on the ETSI forge. The development workflow defines the different types of issues (labels), the development workflow (branches and merge requests) and the decision process for accepting merge requests by the SmartM2M. This deliverable will enable the SAREF developers to speed up the development of SAREF and its extensions. |

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| **Deliv.** | **(Title)**  **Working title**  **Description of the software** |
| SW1 | **Title**: Development of the SAREF Portal Content Generation from the SAREF sources, Enabling Continuous Integration and Deployment of SAREF  **Working Title**: Development of the SAREF Portal Content Generation from the SAREF sources  **Description**: To develop the software that generates the portal content from the SAREF sources and the different versions of SAREF. The portal contains uniform documentation for SAREF and its extensions such that the documentation is designed for domain experts and software developers instead of ontology engineers. This deliverable will enable industries to implement solutions with SAREF faster. |
| SW2 | **Title**: Development of the SAREF Portal Interaction Functionalities, Reinforcing the Engagement of its Community of Users  **Working Title**: Development of the SAREF Portal Interaction Functionalities  **Description**: To develop the SAREF portal interaction functionalities, so that: (1) industries can like or share the content, provide useful feedback to SAREF developers and suggest additions/modifications. (2) SAREF developers can know more about the SAREF community of users. This deliverable will reinforce the engagement of the community of users, and enable the SmartM2M to get insight on the use of SAREF. The URL of the SAREF Portal would be proposed to be linked to other relevant  semantics websites (e.g. [https://www.semanticweb.org)](https://www.semanticweb.org)/) such that users of other semantics/ontology communities become aware of the SAREF Portal. |

## Deliverables schedule:

|  |  |
| --- | --- |
| **Deliverable**  **Working Title** | **Schedule** |
| D1 [DTS/SmartM2M-103673 (TS 103 673)](https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=57865)  **Working Title**:  SAREF Development Framework and Workflow | * Start of work 31 Jul 2019 * Early draft specification Nov 2019 * Stable draft specification Apr 2020 * Final draft specification Jun 2020 * TB approval Jul 2020 |
| SW1  **Working Title**: Development of the SAREF Portal Content Generation from the SAREF sources | * Start of work 31 Jul 2019 * Early version of the software Nov 2019 * Stable version of the software Apr 2020 * Final version of the software Jun 2020 |
| SW2  **Working Title**:  Development of the SAREF Portal Interaction Functionalities | * Start of work 31 Jul 2019 * Early version of the software Nov 2019 * Stable version of the software Apr 2020 * Final version of the software Jun 2020 |

# Work plan, time scale and resources

## Organisation of the work

The work can be separated into 4 main tasks:

* Task T1: Project Management
* Task T2: SAREF development framework and workflow to result in ETSI TS 103 673
* Task T3: Development of the SAREF Portal Content Generation from the SAREF sources to result in Software SW1
* Task T4: Development of the SAREF Portal Interaction Functionalities to result in Software SW2

## Task description

Task 1: Project Management

**Objectives:** Coordination, communication, reporting and leading of the STF team activities, in collaboration with the ETSI secretariat and TC SmartM2M. The project will be organized in an Agile/Scrum way for the sake of efficiency and to foster the quick development of the new SAREF extensions.

**Interactions:** ETSI secretariat, TC SmartM2M, other interested ETSI Technical Bodies (as described in section 5.2) and interested Organizations outside ETSI (as described in section 5.3).

**Resources required**: 5 000 EUR

Task 2: SAREF Development Framework and Workflow

**Objectives:** This task will specify the development workflow of SAREF based on the ETSI forge. The development workflow defines the different types of issues (labels), the development workflow (branches and merge requests), the decision process for accepting merge requests by the SmartM2M officials.

**Input:** TR 103 608 (as describedin section 6.1)

**Output**: D1 DTS/SmartM2M-103673 (TS 103 673) (as described in section 6.3).

**Interactions:** TC SmartM2M, other interested ETSI Technical Bodies (as described in section 5.2), interested Organizations outside ETSI (as described in section 5.3). The specification must be done in coordination with [ETSI CTI](http://www.etsi.org/about/how-we-work/testing-and-interoperability/centre-for-testing-and-interoperability) (Centre for Testing and Interoperability)

**Resources required**: 15 000 EUR

Task 3: Development of the SAREF Portal Content Generation from the SAREF sources

**Objectives:** The objective is to develop the software that generates the portal content from the SAREF sources and the different versions of SAREF. The portal contains uniform documentation for SAREF and its extensions such that the documentation is designed for domain experts and software developers instead of ontology engineers.

**Input:** TR 103 608 (as describedin section 6.1), available Apache 2.0 or CECILL software, and prototype developed by the experts of STF 556

**Output:** SW1 (as described in section 6.3).

**Interactions:** TC SmartM2M, other interested ETSI Technical Bodies (as described in section 5.2), interested Organizations outside ETSI (as described in section 5.3). The specification must be done in coordination with [ETSI CTI](http://www.etsi.org/about/how-we-work/testing-and-interoperability/centre-for-testing-and-interoperability) (Centre for Testing and Interoperability)

**Resources required**: 15 000 EUR

Task 4: Development of the SAREF Portal Interaction Functionalities

**Objectives:** The objective is to develop the SAREF portal interaction functionalities, so that: (1) industries can like or share the content, provide useful feedback to SAREF developers and suggest additions/modifications. (2) SAREF developers can know more about the SAREF community of users.

**Input:** TR 103 608 (as describedin section 6.1), available Apache 2.0 or CECILL software, and prototype developed by the experts of STF 556

**Output:** SW2 (as described in section 6.3).

**Interactions:** TC SmartM2M, other interested ETSI Technical Bodies (as described in section 5.2), interested Organizations outside ETSI (as described in section 5.3). The specification must be done in coordination with [ETSI CTI](http://www.etsi.org/about/how-we-work/testing-and-interoperability/centre-for-testing-and-interoperability) (Centre for Testing and Interoperability)

**Resources required**: 15 000 EUR

## Milestones

Milestone 1 – Early draft TS (Task 2) and Software (Task 3 and 4) for TB review

Milestone 2 – Final draft TS (Task 2) and Software (Task 3 and 4) for TB review

Milestone 3 – Deliverables published, Portal deployed, STF closed

## Task summary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **N** | **Task / Milestone / Deliverable** | Target date | Estimated cost | |
| EUR |  |
| M0 | Start of work | Sept 2019 |  |  |
| T1 | Project management | Sept 2019 - June 2020 | 5 000 |  |
| T2 | SAREF Development Framework and Workflow | Sept 2019 - June 2020 | 15 000 |  |
| T3 | Development of the SAREF Portal Content Generation from the SAREF sources | Sept 2019 - June 2020 | 15 000 |  |
| T4 | Development of the SAREF Portal Interaction Functionalities | Sept 2019 - June 2020 | 15 000 |  |
| M1 | Early draft TS (Task 2) and Software (Task 3 and 4) for TC SmartM2M review, Progress Report to be approved by SmartM2M#52 | 12 Dec 2019 |  |  |
| M2 | Final draft TS (Task 2), Software (Task 3 and 4) and Final Report to be approved by TC SmartM2M#54 | June 2020 |  |  |
| M3 | Deliverable published, Portal deployed, STF closed | Sep 2020 |  |  |
| **Total** | | | **50 000** |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Task Milest.** | **Description** | **J** | **A** | **S** | **O** | **N** | **D** | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** |
| T1 | Project management |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T2 | SAREF Development Framework and Workflow |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T3 | Development of the SAREF Portal Content Generation from the SAREF sources |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T4 | Development of the SAREF Portal Interaction Functionalities |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| M1 | Early draft TS (Task 2) and Software (Task 3 and 4) for TB review |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |
| M2 | Final draft TS (Task 2) and Software (Task 3 and 4) for TB review |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |
| M3 | Deliverables published, Portal deployed, STF closed |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |

## Working methods and travel cost

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. For other cases, refer to the travel budget table in Part III.

# Expertise required

## Team structure

Up to 2 participants to ensure the following mix of competences:

* Experience in industry-specific ontology development, especially SAREF, W3C&OGC SOSA/SSN (Task 2)
* Experience in ontology publication framework design (Task 3, 4)

Part III: Financial conditions

# Maximum budget

Maximum budget for this action will be 55 000 €.

## Manpower cost

|  |  |
| --- | --- |
| Task 1 | 5 000 EUR |
| Task 2 | 15 000 EUR |
| Task 3 | 15 000 EUR |
| Task 4 | 15 000 EUR |
| **Total** | **50 000 EUR** |

## Travel cost

|  |  |
| --- | --- |
| **Expected travels** | **Cost estimate** |
| Reference TB meetings (4x), meetings with ETSI CTI (3x), | 3 000 EUR |
| Meetings with EC (1x) | 2 000 EUR |
| **Total cost** | **5 000 EUR** |

**Total cost**

|  |  |
| --- | --- |
| **Description** | **Maximum estimated cost** |
| Service Contracts | 50 000 EUR |
| Travels | 5 000 EUR |
| **Total cost** | **55 000 EUR** |

Part IV: STF performance evaluation criteria

# Key Performance Indicators

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)
* Number of delegates directly involved in the review of the deliverables
* Contributions/comments received from the reference TBs
* Contributions/comments received from other TBs

Contribution from the STF to ETSI work

* Contributions to TC/WG meetings (number of documents / meetings / participants)
* Contributions to other TBs
* Presentations in workshops, conferences, stakeholder meetings

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
* Respect of time scale, with reference to start/end dates in the approved ToR
* Comments from Quality review by TB
* Comments from Quality review by ETSI Secretariat

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

In the course of 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** |
| 0.1 | 07-Mar-2019 | SmartM2M | Draft | First Draft |
| 0.2 | 15-Apr-2019 | SmartM2M | Draft | Adopted during 15 Apr SmartM2M Ordinary Meeting, and to be approved by TC SmartM2M Remote Consensus 17Apr to the 28 Apr 2019. Updates made by Maxime Lefrançois, then Verifications made by Patrick Guillemin |
| 0.3b | 29-April-2019 | ETSI | Final draft | Ready for 29 April STFManager consolidation |
| 0.4 | 29-April-2019 | Youssouf Sakho | Final draft | Editorials before Panel Review |
|  |  |  |  |  |
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