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| ETSI_logo_Office_Colour_Small | ToR STF DC (TC ATTM / WG AT2) |
| Version: 0.3 |
| Author: Dominique Roche – Date:7 December 2018 |
| Last updated by: Youssouf Sakho – Date: 28 February 2019 |
| page 1 of 16 |

Terms of Reference – Specialist Task Force

STF DC (TC ATTM / WG AT2)

“Standardization of Sustainable & Efficient ICT”

Summary information

|  |  |
| --- | --- |
| Approval status | Approved by TC ATTM (doc ref: ATTM(18)0000XX)  Approved by Board#121 (30 January 2019) |
| Funding | **Maximum budget:  109 500 € ETSI FWP** |
| Time scale | March 2019 to end November 2019 |
| Work Items | DTS/ATTM-0247 (TS 105 200-3-1) Complementary characteristics on global KPI for ICT sites (DCEM)  DTS/ATTM-0248 (TS 105 200-2-2) Energy efficiency: Fixed broadband access networks  DTS/ATTM-0249 (TS 105 200-2-3) Global KPIs; Operational infrastructures; Mobile access networks  RTS/ATTM-0250 (TS 105 174-2) Deployment and Energy Management; ICT sites  DTS/ATTM-0251 (TS 105 174-8) Field recommendations to improve collection and treatment of WEEE for the ICT Sector |
| Board priority | Emerging domains for ETSI  Sustainable Smart Cities & IoT/M2M services |

Part I – Reason for proposing the STF

# Rationale

Information and communication technologies (ICTs) penetrate all parts of society. They bring efficiency benefits to businesses and organizations, and new lifestyle options for individuals. Economic evidence confirms that ICTs drive growth and improve competitiveness. As standardization is one of main tools to ensure efficient ICT development the European Commission issued the Mandate M/462.

Mandate M/462 requested the provision of standards and associated documents for engineering methodologies and key performance indicators (KPIs) to support the environmental sustainability and to reduce end-of-life environmental impacts. In response to Mandate M/462, two sets of standards have been issued: EN 305 174 Series on Engineering and EN 305 200 Series on Global KPIs.

# Objective

These two EN Series must be fully taken into account for the deployment of new networks (ICT sites included), the renewal of existing networks and the implementation of multi-service concepts within both urban and rural areas.

These EN Series need to be supplemented by Technical Specifications in order to deploy and manage the most efficient operational networks and multi-service provisioning including the implementation of 5G services.

In order to issue the five deliverables described in this proposal by the end of 2019, several specialists should join the STF team. Specialists will be experts on city governance, telecommunications, electronics, mobile devices (including 5G) and video surveillance.

The STF schedule is summarized as follows:

* early drafts to be issued by June, 2019;
* stable drafts to be issued by end of July, 2019;
* final drafts to be issued by end of September, 2019;
* publication by mid-December 2019.

# Relation with ETSI strategy and priorities

This STF is requested in order to support the deployment of new networks (ICT sites included), the renewal of existing networks and the implementation of multi-service concepts within both urban and rural areas, including 5G, and the monitoring of efficiency of sustainable urban and rural areas.

The deliverables of the STF will build upon existing ETSI TS documents to include further detail and requirements in relation to Engineering and Global KPIs for sustainable digital multiservice areas (ETSI ENs, ESs & TSs, see §6.1) to support both the deployment of services and the access to the information to support the KPIs.

# Context of the proposal

## ETSI Members support

|  |  |  |
| --- | --- | --- |
| **ETSI Member** | **Supporting delegate** | **Motivation** |
| Airbus DS SLC | Alberola Jean-Marc | Approved in ATTM#24 Plenary |
| eG4U | O’Keeffe Pat | Approved in ATTM#24 Plenary |
| Orange | Bouffant Olivier | Approved in ATTM#24 Plenary |
| RATP | Mustapha Kermoune | Approved in ATTM#24 Plenary |
| SBS aisbl | Babinov Georgi | Support of ATTM work & city needs for sustainable digital multiservice cities approved in ATTM#24 Plenary |
| SIAE Microelettronica SpA | Macchi Roberto | Approved in ATTM#24 Plenary |
| Skylane Optics | Zaccone Carmelo | Approved in ATTM#24 Plenary |

## Market impact

Interoperable and standardized solutions supported by appropriate specifications will bring confidence to communities. This will enable them to make progressive and long-term investments towards their objectives of “Smart Urban and Rural Areas”.  
  
This commitment will consequently enable manufacturers to deploy their solutions much more quickly and to industrialize services and processes by generating value.

The proposal is therefore to initialize this virtuous circle in which each of the actors (i.e. communities, companies and citizens) will have results that suit them in the end which will constitute de-facto a breeding ground favorable to large scale deployment.

A main issue identified is a balanced deployment of sustainable digital multiservice networks and equipment in order to make both urban and rural areas “smart”.

## 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 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 by the end of 2019. These standards will be taken into account by the European urban and rural communities in the list of standards attached to the foreseen new European communities projects (e.g. 5G everywhere, Citizen cards, Mobility as a service app, Smart street furniture, etc.) supporting the development of efficient and smart ICT products and services.

The STF will develop the draft technical content for the planned deliverables through consultation with stakeholders by means of active liaisons with technical committees of official organizations (European/International Standardization Organizations, fora), meetings, workshops and desk-based research in order to ensure that field needs and the most improved solutions are taken into account and resulting in “state of the art” standards.

In order to complete the work in due time (final target being Q4, 2019), the STF will base its work on current ETSI specifications (existing or in development) with the support of the involved ETSI committee ATTM AT2. Other available international standards/specifications will be also considered for this task.

TC ATTM AT2 with support of TC ATTM SDMC acts as a hub between users (communities, industry) and the standardisation area. It builds upon city activities and supports the longer-term upscaling and sustainability of their deployments. TC ATTM AT2 with support of TC ATTM SDMC gathers feedback from field tests from cities funded within the SCC-01 Calls bringing, in addition, the 120 EUROCITIES Knowledge Society Forum (KSF) cities.

## Related voluntary activities in the TB

TC ATTM AT2 and TC ATTM SDMC will provide contributions in order to support the development of the STF deliverables.

## Previous funded activities in the same domain

TC ATTM has had no benefit of STF support in this domain.

## Consequences if not agreed

If the STF will not be accepted the publication of these deliverables will be delayed and the main Mandate M/462 request to provide full sets of standards to support deployment of ICT networks and services will not be respected.

Failure to deliver the proposed deliverables risks further proliferation of non-standard solutions. This slows down the establishment of new “Smart Urban and Rural Areas” which impacts both operators (in terms of deployment of infrastructure and technology) and those responsible for community development within the cities themselves.

Part II – Execution of the work

# Technical Bodies and other stakeholders

## Reference TB

TC ATTM WG AT2 will be responsible for the technical guidance of the STF. This group will support the STF with some specific additional specialists on city networking (experts from cities).

## Other interested ETSI Technical Bodies

Several ETSI actors will be involved in this activity in order to ensure integration of their needs and knowledge.

ETSI TC SmartM2M will be able to support the STF study by M2M knowledge and proposed standardised solutions.

ETSI ISG CIM will be able to support the STF study by CIM knowledge and on service implementation works.

ETSI ISG OEU will be able to support the STF study by ICT Users’ field knowledge.

## Other stakeholders

Several other stakeholders will be involved in this activity in order to ensure integration of their needs and knowledge.

The OneM2M forum will be able to support the STF study by M2M knowledge and proposed standardised solutions.

CENELEC Technical Committee CLC/TC 215 will be invited to support the STF study by knowledge on equipment installation.

Cooperation will be ensured with ITU-T SG5 on environmental part, ITU-T SG15 on network deployment and ITU-T SG20 on smart city deployment.

# Base documents and deliverables

## Base documents

|  |  |  |  |
| --- | --- | --- | --- |
| **Document** | **Title** | **Current Status** | **Expected date for stable document** |
| ETSI EN 305 200-3-1 | Energy management; Operational infrastructures; Global KPIs; Part 3: ICT Sites; Sub-part 1: DCEM | Published |  |
| ETSI ES 205 200-3 | Energy management; Global KPIs; Operational infrastructures; Part 3: Global KPIs for ICT sites | Approved  To be Published |  |
| ETSI EN 305 200-2-2 | Energy management; Operational infrastructures; Global KPIs; Part 2: Specific requirements; Sub-part 2: Fixed broadband access networks | Published |  |
| ETSI ES 205 200-2-2 | Energy management; Global KPIs; Operational infrastructures; Part 2: Specific requirements; Sub-part 2: Fixed broadband access networks | Published |  |
| ETSI EN 305 200-2-3 | Energy management; Operational infrastructures; Global KPIs; Part 2: Specific requirements; Sub-part 3: Mobile broadband access networks | Published |  |
| ETSI ES 205 200-2-3 | Energy management; Global KPIs; Operational infrastructures; Part 2: Specific requirements; Sub-part 3: Mobile access networks | NWI | Existing stable draft |
| ETSI EN 305 174-2 | Broadband Deployment and Lifecycle Resource Management; Part 2: ICT Sites | Published |  |
| ETSI TS 105 174-2 | Broadband Deployment and Energy Management; Part 2: ICT sites | Published |  |
| ETSI TS 105 174-2-2 | Broadband Deployment - Energy Efficiency and Key Performance Indicators; Part 2: Network sites; Sub-part 2: Data centres | Published |  |
| ETSI EN 305 174-8 | Broadband Deployment and Lifecycle Resource Management; Part 8: Management of end of life of ICT equipment (ICT waste/end of life) | Published |  |
| ETSI GS OEU 028 | Practical recommendations to improve collection and treatment of WEEE for the ICT Sector | NWI | Feb 2019 |

## Deliverables

|  |  |  |
| --- | --- | --- |
| **Deliv.** | **Work Item code**  **Standard number** | **Working title**  **Scope** |
| D1 | DTS/ATTM-0247  TS 105 200-3-1 | Working title: Complementary characteristics on global KPI for ICT sites (DCEM)  Scope: The specification will define complementary characteristics for field implementation of a so-called Global Key performance Indicators (Global KPI) enabling the monitoring of performance of energy use management in all ICT sites |
| D2 | DTS/ATTM-0248  TS 105 200-2-2 | Working title: Energy efficiency: Fixed broadband access networks  Scope: The present document specifies the complementary requirements for a Global KPI for energy management (KPIEM) and their underpinning Objective KPIs addressing the following objectives for the fixed access networks (FANs) of broadband deployment. This document will complete the general requirements of EN 305 200-2-2. |
| D3 | DTS/ATTM-0249  TS 105 200-2-3 | Working title: Global KPIs; Operational infrastructures; Mobile access networks  Scope: The present document will define complementary requirements on the Global KPIs for specific mobile access networks and describing how the Global KPIs are to be applied (which may be used to support future regulatory objectives). This document will complete the general requirements of EN 305 200-2-3. |
| D4 | RTS/ATTM-0250  TS 105 174-2 | Working title: Deployment and Energy Management; ICT sites  Scope: Details measures to be taken to improve the energy efficiency within operator sites and data centres for broadband deployment. This document will complete the general requirements of EN 305 174-2. |
| D5 | DTS/ATTM-0251  TS 105 174-8 | Working title: Field recommendations to improve collection and treatment of WEEE for the ICT Sector  Scope: Based on the frame defined by ETSI EN 305 174-8 ; the purpose of this TS is to provide more detailed on the field recommendations to improve collection and traceability of WEEE for the ICT sector. It will focus on applicable recommendations for users and their WEEE management agreed partners to improve collection, recycling or refurbishment of old equipment. |

## Deliverables schedule:

DTS/ATTM-0247

* Start of work 08-Nov-2018
* Early draft 30-Apr-2019
* Stable draft 30-Jun-2019
* WG approval 30-Sep-2019
* TB approval 31Oct-2019 TB#26
* Publication 12-Dec-2019

DTS/ATTM-0248

* Start of work 08-Nov-2018
* Early draft 30-Apr-2019
* Stable draft 30-Jun-2019
* WG approval 30-Sep-2019
* TB approval 31Oct-2019 TB#26
* Publication 12-Dec-2019

DTS/ATTM-0249

* Start of work 08-Nov-2018
* Early draft 30-Apr-2019
* Stable draft 30-Jun-2019
* WG approval 30-Sep-2019
* TB approval 31Oct-2019 TB#26
* Publication 12-Dec-2019

DTS/ATTM-0250

* Start of work 08-Nov-2018
* Early draft 30-Apr-2019
* Stable draft 30-Jun-2019
* WG approval 30-Sep-2019
* TB approval 31Oct-2019 TB#26
* Publication 12-Dec-2019

DTS/ATTM-0251

* Start of work 08-Nov-2018
* Early draft 30-Apr-2019
* Stable draft 30-Jun-2019
* WG approval 30-Sep-2019
* TB approval 31Oct-2019 TB#26
* Publication 12-Dec-2019

# Work plan, time scale and resources

## Organization of the work

The STF work and its programming schedules will be supervised by a Steering Committee (SC).

As mentioned above, the proposed action will be directed and supervised by a Steering Committee taken from:

* Chairman of ETSI TC ATTM and its Working Groups and extended as required to include specific additional ETSI specialists, e.g. “Plugtests™” specialists (ETSI CTI), Home Networking experts;
* Chairman of ETSI TC SmartM2M and its Officials in order to support the STF study by M2M knowledge;
* Chairman of ETSI ISG CIM and officials in order to support the STF study by CIM knowledge on service implementation works;
* Chairman of ETSI ISG OEU and Officials in order to support the STF study by ICT Users’ field knowledge;
* Relevant ETSI Technical Officers.

The STF will report on its milestones to Steering Committee and ETSI TC ATTM.

The STF work will be divided into 6 tasks and 6 milestones will be scheduled. The milestones will be as following:

* Start-up activities [Milestone 1]
* Table of contents, scope [Milestone 2]
* Initial draft [Milestone 3]
* Progress Report to SC and TC ATTM [Milestone 4]
* Final drafts [Milestone 5]
* Conclusions, Publication & Final Report to SC and TC ATTM [Milestones 6].

## Specialist Task Force (STF) establishment

Objectives

The purpose of this action is to establish the Steering Committee (SC) and the STF team.

Resources required

The STF will consist of providers with strong competence and knowledge in ICT technologies and operational networks as following:

* Hands-on experience in engineering and implementation of communications networks (fixed/mobile), sites (data centres included), systems and services;
* Good knowledge of deployment of smart city services;
* Good knowledge of the use of Global Key Performance Indicators for operational ICT benchmarking;
* At least one with a strong knowledge of waste management/end of life.

## Task description

The proposed action will be performed as described in the following tasks:

Task 0 – Project Management [Milestone 0]

Objectives

The purpose of this task is to describe work of the STF Leader. One of the providers will act as STF Leader.

Output

STF Leader will be responsible for the consolidation of the documentation, coordination the STF activities and the provision of the required progress reports to the steering committee. This provider will also be responsible for the drafting of the Progress and Final Reports to the Steering Committee.

Task 1 – Research, analysis, Table of contents, scope [Milestone 1]

Objectives

The purpose of this task is to:

* determine source material availability in support of the objective/goal of the action;
* identify areas of source material shortfall with regard to the objective/goal of the action;
* issue tables of contents and scopes of the draft deliverables stated in clause 6.2.

Input

STF will analyse results of the research.

The STF will provide tables of contents and scopes of the deliverables to the SC and to ETSI TC ATTM for comment.

The STF will improve the tables of contents and scopes of the deliverables further to the comments received from the SC and ETSI TC ATTM.

Output

The final version of tables and scopes will be provided to the SC, and ETSI TC ATTM **[Milestone 1] and the ETSI work programme will be updated**.

A Progress Report will be provide to the SC, and ETSI TC ATTM **[Milestone 1] and** cover the activity leading up to the data resulting from analysis covering:

* documentation addressing broadband deployment (international, regional, national);
* research tools in support of the objective of the action;
* the availability of standards and associated documents from standardization bodies (SDOs, fora and elsewhere).

Interactions

The STF will work with SC and ETSI TC ATTM.

Resources required

The STF leader will manage this task.

The Progress Report will be done by STF Team leader.

Task 2 – Development of the Technical Specification TS 105 200-3-1: Complementary characteristics on global KPI for ICT sites (DCEM)

Objectives

The Technical Specification will be developed and issued by taking into account the table of contents and scope coming from Task 1.

Further to the development of STF deliverables STF will provide **Final Report to SC and TC ATTM**. This report will include STF conclusions.

Input

The STF will develop stable drafts through consultation with stakeholders by means of active liaisons with technical committees of official organizations (European/International Standardization Organizations, fora).

The STF will further improve the stable drafts of the deliverables in the light of further comments from the ETSI TC ATTM in order to issue the Final Draft for approval.

Output

The STF will provide the stable draft of the deliverable to the SC, and ETSI TC ATTM for **comments**.

The STF will provide a **Progress Report to SC** by mid of development period of STF deliverables **[Milestone 2]**.

The STF will provide the Final Draft of the deliverable to the SC, and ETSI TC ATTM for **approval**.

The STF will provide a **Final Report to SC** by mid of development period of STF deliverables **[Milestone 3]**

Interactions

The STF will finalize the Technical Specification development in cooperation with ETSI ISG OEU (ICT Users) by means of presentations and idea exchanges in a workshop with providers and users in order to ensure that they fully take into account field needs and most improved solutions.

ETSI will circulate deliverable **at the ETSI TC ATTM level**. That means that ETSI members will have the opportunity to provide comments which may require further resolution.

Resources required

The STF managed by STF leader will develop the draft versions of the Technical Specification.

The STF leader will issue the Progress Report and Final Report.

Task 3 – Development of the Technical Specification TS 105 200-2-2: Energy efficiency: Fixed broadband access networks

Objectives

The Technical Specification will be developed and issued by taking into account the table of contents and scope coming from Task 1.

Input

Idem Task 1.

Output

Idem Task 1.

Interactions

Idem Task 1.

Resources required

Idem Task 1.

Task 4 – Development of the Technical Specification TS 105 200-2-3: Global KPIs; Operational infrastructures; Mobile access networks

Objectives

The Technical Specification will be developed and issued by taking into account the table of contents and scope coming from Task 1.

Input

Idem Task 1.

Output

Idem Task 1.

Interactions

Idem Task 1.

Resources required

Idem Task 1.

Task 5 – Development of the Technical Specification TS 105 174-2: Deployment and Energy Management; ICT sites

Objectives

The Technical Specification will be developed and issued by taking into account the table of contents and scope coming from Task 1.

Input

Idem Task 1.

Output

Idem Task 1.

Interactions

Idem Task 1.

Resources required

Idem Task 1.

Task 6 – Development of the Technical Specification TS 105 174-8: Field recommendations to improve collection and treatment of WEEE for the ICT Sector

Objectives

The Technical Specification will be developed and issued by taking into account the table of contents and scope coming from Task 1.

Input

Idem Task 1.

Output

Idem Task 1.

Interactions

Idem Task 1.

Resources required

Idem Task 1.

## Milestones

Milestone 0 – Start of work

The purpose of this Milestone 1 is to start the work in order to issue the deliverables requested in clause 6.2.

Milestone 0 will be reached by end of March 2019.

Milestone 0 activities will be done with SC.

Milestone 1 – Early drafts

The STF will issue early draft versions of the deliverables stated in clause 6.2.

Milestone 1 will be reached by end of April 2019.

Milestone 1 will be done by the STF.

STF Team leader will issue a Progress Report that will be provided to SC and TC ATTM. It will be approved by TC ATTM.

Milestone 2 – Stable drafts

The STF will issue stable draft versions of the deliverables requested in clause 6.2.

Milestone 2 will be reached by end of June 2019.

Milestone 2 will be done by the STF.

STF Team leader will issue a Progress Report that will be provided to SC and TC ATTM. It will be approved by TC ATTM.

Milestone 3 – Conclusions, Publication & Final Report to SC and TC ATTM

The STF will provide Final Report for delivery to the SC and TC ATTM.

Milestone 3 will be reached by end of November 2019.

Milestone 3 will be done by the STF Team leader.

## Task summary

|  |  |  |  |
| --- | --- | --- | --- |
| **N** | **Task / Milestone / Deliverable** | Target date | **Estimated cost** |
| M0 | Start of work | Apr 2019 | 0 |
| T0 | Project Management (incl. production of progress and final reports) | Apr – Nov 2019 | 12 000 |
| T1 | Research, analysis to determine source material Consultation, dissemination: open active liaison with stakeholders.  Development of Table of contents and scope to be presented to TC ATTM | Apr - Nov 2019 | 20 000 |
| T2 | Development of the Technical Specification Complementary characteristics on global KPI for ICT sites (DCEM) | Apr - Nov 2019 | 15 000 |
| T3 | Development of the Technical Specification on Energy efficiency: Fixed broadband access networks | Apr - Nov 2019 | 13 000 |
| T4 | Development of the Technical Specification on Global KPIs; Operational infrastructures; Mobile access networks | Apr - Nov 2019 | 13 000 |
| T5 | Development of the Technical Specification on Deployment and Energy Management; ICT sites | Apr - Nov 2019 | 13 000 |
| T6 | Development of the Technical Specification on Field recommendations to improve collection and treatment of WEEE for the ICT Sector | Apr - Nov 2019 | 16 000 |
| M1 | Issue tables of contents and scopes of the draft deliverables  Progress Report approved by TC ATTM | Apr 2019 |  |
| M2 | Stable draft of the Deliverables  Progress Report approved by TC ATTM | Jun 2019 |  |
| M3 | Conclusions, Publication & Final Report to SC and TC ATTM, STF closed | Nov 2019 |  |
| **Total** | | | **102 000** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **Month** | | | | | | | | | | | |
| **Mar 19** | **Apr 19** | **May 19** | **Jun 19** | **Jul 19** | **Aug 19** | **Sep 19** | **Oct 19** | **Nov**  **19** | **Dec**  **19** |  |  |
| **Task / Milest.** | **Description** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |  |  |
| M0 | Start of work |  |  |  |  |  |  |  |  |  |  |  |  |
| T0 | Project Management (incl. production of progress and final reports) |  |  |  |  |  |  |  |  |  |  |  |  |
| T1 | Research, analysis to determine source material Consultation, dissemination: open active liaison with stakeholders.  Development of Table of contents and scope to be presented to TC ATTM |  |  |  |  |  |  |  |  |  |  |  |  |
| T2 | Development of the Technical Specification on Complementary characteristics on global KPI for ICT sites (DCEM) |  |  |  |  |  |  |  |  |  |  |  |  |
| T3 | Development of the Technical Specification on Energy efficiency: Fixed broadband access networks |  |  |  |  |  |  |  |  |  |  |  |  |
| T4 | Development of the Technical Specification on Global KPIs; Operational infrastructures; Mobile access networks |  |  |  |  |  |  |  |  |  |  |  |  |
| T5 | Development of the Technical Specification on Deployment and Energy Management; ICT sites |  |  |  |  |  |  |  |  |  |  |  |  |
| T6 | Development of the Technical Specification on Field recommendations to improve collection and treatment of WEEE for the ICT Sector |  |  |  |  |  |  |  |  |  |  |  |  |
| M1 | Issue tables of contents and scopes of the draft deliverables  Progress Report approved by TC ATTM |  |  |  |  |  |  |  |  |  |  |  |  |
| M2 | Stable draft of the Deliverables  Progress Report approved by TC ATTM |  |  |  |  |  |  |  |  |  |  |  |  |
| M3 | Conclusions, Publication & Final Report to SC and TC ATTM, STF closed |  |  |  |  |  |  |  |  |  |  |  |  |

## Working methods and travel cost

The STF work will be performed as described in §7.4:

* Task 1: One meeting of SG to be done
* Task 2 to Task 6: 1 session of 2 days (cost included in contracts) + coordination session remotely done
* Milestone 2: STF Team leader will attend CENELEC TC 215 Plenary & ITU SG15 meeting in Geneva
* Milestone 3: STF Team leader will attend TC ATTM Plenary

# Expertise required

## Team structure

The following relevant expertise is required in STF Team:

**One provider acting as STF leader**, with a proven record of standards project delivery:

* + Possess a strong knowledge of project management, report writing, consensus building, presentation skills, working in an international environment;
  + Have hands-on experience in the implementation of communications sites (data centres included), networks, systems and services deployed in community areas.

**Four providers**, with the following qualifications:

* + Hands-on experience in the engineering and the implementation of communications networks, sites (data centres included), systems and services;
  + Good knowledge of telecommunications legislation;
  + Good knowledge of the use of Key Performance Indicators;
  + Strong knowledge of creation of Key Performance Indicators;
  + At least one with a strong knowledge of deployment and operational core and fixed networks;
  + At least one with a strong knowledge of deployment and operational core and mobile networks;
  + At least one with a strong knowledge of deployment and operational data centres, and servers, and storage;
  + At least one with a strong knowledge of environmental area;
  + At least one with a strong knowledge of waste/end of life;
  + At least one with a strong knowledge of operational implementation in community areas.

Part III: Financial conditions

# Maximum budget

## Manpower cost

The maximum budget allocated to this STF will be 102 000 €.

## Travel cost

The estimate of the maximum travel costs allocated to this STF will be 7 500 €.

The STF Leader (or nominated representative from within the STF) will be required to attend multiple meetings of TC ATTM Plenary and of the NGO Eurocities in order to report the documents in development and/or completed by the STF.

|  |  |  |
| --- | --- | --- |
| **Expected travels** | **Travel number** | **Cost estimate** |
| TC ATTM Plenary | 2 | 2 000 Euros |
| CENELEC | 1 | 1 000 Euros |
| ITU-T | 1 | 1 500 Euros |
| ISO/IEC JTC1 | 1 | 1 500 Euros |
| European ICT workshop | 1 | 1 500 Euros |
| **Total cost** |  | **7 500 Euros** |

## Other Costs

No other cost has required.

Part IV: STF performance evaluation criteria

# Key Performance Indicators

Contribution from ETSI Members to STF work

* Steering Group review meetings, at least 2 meetings
* Contribution / Voluntary work from ETSI TBs : TC ATTM, TC SmartM2M, ISG CIM, and ISG OEU will provide contributions in order to support development of deliverables
* Workshops to promote STF activities, between 1 to 2 events
* Participation of Member delegates in meetings / workshops events related to STF work [e.g. types (e.g. city service specialists, environmental specialists, network specialists) and number of participants]
* Contribution of Member delegates [e.g. types (e.g. standards, presentations) and number of documents presented by delegates, types (e.g. standards, presentations) and number of documents presented by the STF for comments]
* Approval of deliverables from the Reference TB according to schedule
* Publication of deliverables (TSs) according to schedule
* Respect of time scale, with reference to start/end dates in the approved action grant

Contribution from the STF to ETSI work

* Presentations to ETSI TBs in TB plenary sessions and WG meetings
* Contribution to other standardization bodies by attending body meetings (face to face or remote participation)
* Liaison with communities (e.g. metropolises, towns) to identify requirements and raise awareness on the project deliverables
* 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 representation in the project (e.g. field actors from cities, specialists of urban area) to support improvement of proposed draft standards
* Presentations to ETSI TBs in TB plenary sessions and WG meetings: mainly in TC ATTM Plenaries (Apr 2019:Nov 2019) and TC ATTM AT2 (Apr 2019:Nov 2019) and TC ATTM SDMC (Apr 2019:Nov 2019)
* Liaison activities performed by the STF (e.g. workshops/ conferences/events)
* Contribution to other standardization bodies by attending body meetings (face to face or remote participation)
* Potential interest of new members to join ETSI, e.g. providers of smart cities equipment
* 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 work.

In the course of the activity, the STF Leader shall 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 | 09-Dec-2018 | D. Roche | Early Draft |  |
| 0.1 |  | D. Roche | Final Draft |  |
| **0.2** | 21-Dec-2018 | Youssouf Sakho | Final Draft | Consistency Check |
| **0.3** | 28-Feb-2019 | Youssouf Sakho | Board Approved | Updates before CL publication |
| **0.4** |  |  |  |  |
| **0.5** |  |  |  |  |