

ETSI Industry Specification Group (ISG) relating to 'Zero touch network and Service Management' (ZSM)

between

The European Telecommunications Standards Institute (hereinafter referred to as "ETSI"), a French non-profit making association organized under the law of July 1, 1901, located at 650 Route des Lucioles, 06560 Valbonne Sophia Antipolis, France, represented by its Director-General, (hereinafter referred to as the "Director-General")

and

The ISG Member specifically identified in **Annex 1** hereof (hereinafter referred to as the "Signatory").

Whereas:

- A. ETSI is a standard-setting organization in the field of telecommunications, officially recognized by the European Union as a European Standards Organisation;
- B. The Signatory is, either (i) an ETSI Full or Associate member wishing to participate in the work of the ISG identified in **Annex 2** hereof (hereinafter, the "ISG"), or (ii) has applied for ETSI Full or Associate membership and has been authorized by the Director-General to participate in the work of the ISG;
- C. The Director-General has approved the creation of the ISG and its Terms of Reference as attached in **Annex 4** hereafter;
- D. The Signatory wishes to participate in the work of the ISG as an ISG Member (as this term is defined below) in accordance with Clause 3.4 of the ETSI Technical Working Procedures and has agreed to enter into and be bound by the terms of the present Agreement.

It is agreed as follows:

1. Incorporation by reference and definitions

1.1. Incorporation by reference

Subject to Discretionary Decisions, the decision making processes set forth in **Article 8** of the present Agreement and any authorized deviations from the ETSI Technical Working Procedures provided under **Article 9** of the present Agreement, the parties hereby agree to be bound by and comply with the terms and rules relating to the creation, organization, operation and termination applicable to ISGs set forth in the [ETSI Directives](#), including the ETSI Guidelines for Antitrust Compliance which shall be incorporated by reference and form an integral part hereof.

1.2. Definitions

In the present Agreement, all capitalized terms and expressions not otherwise defined herein shall have the meaning ascribed to them in the [ETSI Directives](#), and, unless otherwise required by the context:

- (a) "Director-General" shall have the meaning ascribed to it in the presentation of the parties;
- (b) "Discretionary Decisions" shall have the meaning ascribed to it in **Article 8.1** of the present Agreement;
- (c) "ETSI Directives" shall mean the set of documents ruling ETSI available at <http://portal.etsi.org/directives/home.asp> and applicable on the date set forth in **Annex 2** hereof as well as their subsequent versions and evolutions adopted during the lifetime of the ISG;
- (d) "ETSI IPR Policy" shall have the meaning ascribed to it in **Article 2** of the present Agreement;
- (e) "ETSI Technical Working Procedures" shall mean the document in the [ETSI Directives](#) which apply to the present Agreement;

- (f) "ISG Member" shall mean, when used in relation to the ISG, either an ETSI Full or Associate member or an applicant to ETSI Full or Associate membership which has been authorized by the Director-General to participate in the work of the ISG and which has signed the ISG Member Agreement;
- (g) "ISG Participant" shall mean, when in relation to the ISG, either an ETSI Observer or a legal entity which, even though it is not an ETSI Full or Associate member or an applicant to ETSI Full or Associate membership, has been authorized by the Director-General to participate in the work of the ISG and which has signed the ISG Participant Agreement;
- (h) "Terms of Reference" shall mean those Terms of Reference approved by the Director-General on the date set forth in **Annex 2** hereof as well as their subsequent versions and evolutions adopted during the lifetime of the ISG, setting out, inter alia, the scope of the ISG, the planned deliverables and delivery dates, and the planned collaboration with other bodies;
- (i) "Attendee" shall mean an individual
- participating face-to-face or remotely in an ISG meeting; or
 - participating in an online ISG meeting; or
 - participating in the work of the ISG by using (non-real-time) electronic working methods;
- (j) "Counsellor" shall mean the representatives of the European Commission (EC) as well as representatives of the Secretariat of the European Free Trade Association (EFTA). ETSI Counsellors may attend ISG meetings without signing any ISG Agreements or paying any participation fees;
- (k) "Observer" shall mean a legal person fulfilling the conditions for ETSI Full member or Associate member status but choosing not to have the right to participate fully in the proceedings of the Institute;
- (l) "Group Specification" (GS) shall mean an ETSI deliverable, containing normative provisions, approved for publication by an ISG;
- (m) "Group Report" (GR) shall mean an ETSI deliverable, containing only informative elements, approved for publication by an ISG;
- (n) "Business Day" shall be considered as every French official working day of the week.

2. Intellectual Property

The Signatory agrees to the terms of, and shall abide by, the ETSI IPR Policy set forth in Annex 6 of the [ETSI Rules of Procedure](#) and their subsequent versions and evolutions (hereinafter, the "ETSI IPR Policy").

3. ISG membership: duties and rights

The ISG membership comprises ISG Members and ISG Participants.

ISG Members and ISG Participants have the duty to constructively cooperate in compliance with all applicable competition law rules on the development of ISG Group Reports and/or ISG Group Specifications within the scope of the ISG as described in its Terms of Reference.

The ISG Chair is responsible for both external communication and internal reporting obligation to ETSI.

Any communication outside the ISG itself by the ISG Chair and/or by the ISG Members and ISG Participants shall be made in coordination with the Director-General.

It is accepted that an ISG can have its own valuable opinion which can differ from ETSI's opinion. Therefore in case of external communication, the ISG Chair shall ensure that such communication is clearly made by the ISG and marked as such for avoiding any confusion of representation with ETSI.

In the case of a public consultation, the ISG Chair shall beforehand coordinate with the Director-General. When a response to such public consultation is envisaged, if the response is addressing technical matters the ISG Chair shall ensure that such response is clearly specified as coming from the ISG and differentiated from ETSI's answer.

If the response is addressing non-technical matters, such response shall be reviewed by the Director-General.

ISG Members have the right to cast their vote on the approval of an ISG Group Report or Group Specification when necessary, and in other instances when decisions by the ISG Members are required.

ISG Members have the right to appeal directly to the Director-General to challenge an ISG Chair's decision and shall inform the ISG Chair beforehand.

For information of the ISG Members, ISG Participants shall participate physically in at least one (1) plenary meeting of the ISG in a twelve (12) months period in order to retain their right to participate in the ISG.

4. ISG participation fee

ISG Members are not required to pay an individual participation fee for attending ISG meetings.

For information of the ISG Members, ISG Participants are required to pay an individual participation fee for attending ISG face-to-face meetings as described in **Annex 5** of the ISG Participant Agreement.

This individual participation fee may be modified by a decision of the Director-General. Such decision shall be notified by the Director-General to the ISG Chair and becomes effective as from the date of the notification by the ISG Chair to the ISG.

5. ETSI Secretariat resources

Basic administrative support will be provided by the ETSI Secretariat at no additional cost to the ISG Members and ISG Participants e.g.:

- info/meeting/document handling area on the ETSI Portal;
- document storage area on the ETSI Docbox server;
- e-mail lists provision;
- entry of the Work Items into the ETSI Work Program Management (WPM) database;
- processing/publication of ISG Group Reports and/or Group Specifications, provided they have respected the ETSI Drafting Rules;
- a support officer will be allocated to provide guidance and assistance to the ISG;
- support for meetings will be provided when the meeting is held at the ETSI Headquarters, e.g.
 - meeting rooms in ETSI premises;
 - meeting support for invitations, badges, etc in ETSI premises;
 - refreshments in ETSI premises.

ISG meetings held outside of the ETSI Headquarters shall be supported by the hosting organization.

In addition the ETSI Secretariat may support the ISG in organizing workshops and possible interoperability events.

5.1. Additional administrative support

The ISG Chair may request that the ISG receives additional administrative support from the ETSI Secretariat, provided that the Director-General agrees and

- either the ISG Members and ISG Participants agree to provide voluntary contributions to cover the costs of such additional support and the ETSI Secretariat shall only provide the requested additional administrative support after receipt by ETSI of all payments corresponding to such contributions,
- or resources corresponding to such additional support are approved by the ETSI Board upon petition by the ISG Chair.

5.2. Resources requirements

No resource requirements, beyond the "Basic Administrative Support" provided by the ETSI Secretariat to ISGs have been identified.

Further resource requirements may be identified from time to time by the ISG Members, who will decide on the funding arrangements as required.

6. Convening an ISG meeting

6.1. Invitation to an ISG meeting

The Director-General will announce the first face-to-face meeting (“Kick-off Meeting”) of the ISG in a Collective Letter to the ETSI members, providing at least thirty (30) days’ notice.

The invitation to an ISG face-to-face meeting and the necessary logistical information shall be disseminated by the hosting organization at least thirty (30) days before the meeting to all on the ISG membership list.

6.2. Agenda for an ISG meeting

The Director-General will announce the draft agenda for the Kick-off Meeting (KoM) of the ISG in a Collective Letter to the ETSI members, providing at least thirty (30) days’ notice.

The draft agenda shall be disseminated by the ISG Chair to all on the ISG membership list at least thirty (30) days before a face-to-face meeting.

The draft agenda shall include details of draft ISG Group Reports and/or Group Specifications for approval and ISG Chair/Vice-Chairs and/or Working Group Chairs for appointment.

Any other subject matters where voting may be required shall also be included and indicated in the draft agenda.

ISG Group Reports and Group Specifications will only be approved within ISG face-to-face meetings, or over a period which may extend beyond the end of the ISG face-to-face meeting whereby the ISG Members use electronic voting.

6.3. Documentation for an ISG meeting

Contributions for an ISG meeting shall be uploaded a minimum of seventy-two (72) hours prior to a meeting.

Late contributions shall be deferred to the next meeting unless there is a Consensus to make an exception.

Meeting documents shall follow a consistent numbering system as shown in the following example:

ETSI/ISG(nn)x_filename

This numbering system has the following logical elements:

ETSI:	to indicate that it is an ETSI document;
ISG:	the name of the ISG or related Working Group;
(nn):	to indicate the year, e.g. (16);
x:	to indicate a unique n° of the document, appended with a revision n° if applicable;
filename:	filename of the document.

6.4. Registration for an ISG meeting

Every Attendee shall register prior to a face-to-face or online ISG meeting using the Meeting Application on the ETSI Portal or on arrival at the meeting.

Where registration is made on arrival at the meeting each Attendee representing an ISG Member or an ISG Participant shall declare the precise name of that ISG Member or ISG Participant organization.

An Attendee may only represent one (1) ISG Member or one (1) ISG Participant.

6.5. Maintaining an ISG membership list

The ISG shall maintain an ISG membership list within an email exploder list established specifically for that purpose.

Any individual may join this email exploder list if he/she is a representative of a legal entity that has signed the ISG Member Agreement or the ISG Participant Agreement and has an ETSI-On-Line (EOL) user account, and those who join this email exploder list will be considered as being on the ISG membership list.

Failure to reconfirm the intention to remain on the email exploder list at regular intervals (lists are normally reviewed every six (6) months) will result in removal from this email exploder list and thus from the ISG membership list.

The ISG membership list shall be used for the dissemination of information, for building of Consensus, and for formal decision making within the ISG.

7. Preparation of ISG Group Reports (GR) and Group Specifications (GS)

ISG Group Reports and Group Specifications are prepared within the ISG or within specific ISG Working Groups. The ISG Working Groups are chaired by ISG Working Group Chairs, who are appointed according to the rules of operation of the ISG.

All draft ISG Group Reports and ISG Group Specifications should be approved by Consensus by the ISG Members and ISG Participants according to the rules of operation of the ISG. In case Consensus cannot be achieved then **Deviation#4 of Annex 3** applies.

If an ISG Group Report or Group Specification is prepared in an ISG Working Group and fails to be approved by the ISG Members and ISG Participants, it shall be referred back to the ISG Working Group.

8. Decision Making

The Signatory undertakes to comply with all applicable laws and regulations, including EC and national competition laws and regulations, and to refrain from implementing any discriminatory decision making process in the context of the ISG.

8.1. Discretionary Decisions

The ISG shall be operated pursuant to the rules set forth in the ETSI Technical Working Procedures, provided however that the ISG Members and ISG Participants may take decisions on issues concerning its organizational structure, the possible revision of the ISG Terms of Reference of its Working Groups, the approval of draft ISG Group Reports and Group Specifications and more generally, any matter which is left at their discretion under the [ETSI Directives](#) (hereafter, the "Discretionary Decisions"). Such decisions will be binding upon the ISG Members and ISG Participants.

8.2. General decision making process

In accordance with Clause 3.7 of the ETSI Technical Working Procedures, and subject to the provisions of **Article 1.1** of the present Agreement, the Signatory agrees that the Discretionary Decisions taken by the ISG Members and ISG Participants shall be binding upon the Signatory when taken according to the rules laid down in Clause 1.7 of the ETSI Technical Working Procedures, except for any variations provided for in **Annex 3** hereof.

9. Authorized deviations from the ETSI Technical Working Procedures

The ISG shall operate pursuant to the rules set forth in the ETSI Technical Working Procedures, with the exceptions provided in **Annex 3** hereof.

10. No assignment

Except written agreement by the Director-General, the rights and obligations of the Signatory under the present Agreement are personal to the Signatory and shall not be assigned (whether absolutely or by way of security and whether in whole or in part), sub-contracted, delegated, transferred, pledged, declared in trust for a third party, or otherwise disposed of in any manner whatsoever (each of the above an "assignment") and any such purported assignment in contravention of this Article shall be ineffective.

11. Limitation of liability

ETSI, its officers, employees and agents shall have no liability to the Signatory in respect of any actual or expected loss of profits, loss of revenue, loss of goodwill, loss of opportunity, loss of business, or increased costs or expenses.

The ISG Member shall have no liability to the other signatories in respect of an indirect loss of profits, loss of revenue, loss of goodwill, loss of opportunity, loss of business, or increased costs or expenses.

12. Term and termination

12.1. Date of termination

The present Agreement shall enter into force as from the date of its execution by the parties and shall remain effective until the earlier of (i) the date of termination of the ISG, (ii) the date of the Signatory's resignation from the ISG, (iii) the date of the Signatory's resignation or expulsion from ETSI, (iv) the date of the Signatory's revocation from the ISG if the Signatory commits a material breach of any of its obligations under the present Agreement (including the [ETSI Directives](#) incorporated by reference pursuant to **Article 1.1** of the present Agreement and the ISG Terms of Reference) and fails to remedy the same within thirty (30) days after receiving notice to do so (hereinafter, the "date of termination").

For the purpose of determining the date of termination:

- (a) the date and conditions of termination of the ISG shall be decided by the Director-General pursuant to Article 8.3.9 of the [ETSI Rules of Procedure](#) and Clause 3.2 of the ETSI Technical Working Procedures;
- (b) the Signatory may resign as ISG Member at any time by sending a resignation notice to the Director-General, copy to the ISG Chair, and the date of the Signatory's resignation from the ISG shall be deemed to be the date of receipt of the resignation notice by the Director-General;
- (c) the date of the Signatory's resignation or expulsion from ETSI shall be determined pursuant to Article 1.4 of the [ETSI Rules of Procedure](#);
- (d) the Director-General may revoke at any time the invitation or authorization to attend meetings of the Signatory in the event the Signatory commits a material breach of its obligations under the present Agreement by sending a revocation notice to the Signatory, copy to the ISG Chair, and the date of revocation of the Signatory from the ISG shall be deemed to be the date of receipt of the revocation notice by the Signatory.

12.2. Effect of termination

Upon occurrence of the date of termination, the present Agreement shall automatically terminate and the Signatory shall cease to participate in the work of the ISG and shall no longer receive any benefit or information as an ISG Member, it being provided however that termination of the present Agreement for any reason:

- (a) shall be without prejudice to any rights or obligations which shall have accrued or become due prior to the date of termination and the Signatory shall remain bound to duly perform and complete any and all obligations which shall have arisen out of or in connection with the present Agreement prior to the date of termination, including any transfer or license of intellectual property rights (or undertakings to transfer or license intellectual property rights) pursuant to the [ETSI IPR Policy](#) and **Article 2** of the present Agreement;
- (b) shall not affect any right or obligation of any party under the [ETSI Directives](#), which shall continue into force after the termination of the present Agreement (except in the event of the Signatory's resignation or expulsion from ETSI, in which case the provisions of Article 1.4 of the [ETSI Rules of Procedure](#) shall apply); and
- (c) shall not prejudice the rights or remedies which any party may have in respect of any breach of the terms of the present Agreement prior to the date of termination.

12.3. Termination of the ISG

In the event of termination of the ISG, the parties agree that the ISG shall, prior to the date of termination of the ISG (as determined pursuant to **Article 12.1(a)** of the present Agreement), submit to the Director-General recommendations concerning the maintenance of Group Reports(s) and/or Group Specification(s) produced by the ISG.

13. Notice

Unless otherwise specified by the Director-General, a notice (including any approval, consent, request, or other communication) in connection with the present Agreement must be in writing, in the English language, and left at the address of the addressee or sent by pre-paid registered delivery with return receipt requested/express mail (air mail if posted from or to a place outside France) to the address of the addressee or sent by facsimile to the facsimile number of the addressee, and marked for the attention of the person so specified, or to such other address or facsimile number, and/or marked for the attention of such other person as the relevant party may from time to time specify by notice given in accordance with this Article, and, for the avoidance of doubt, must not be sent by e-mail.

The relevant details of the Signatory are set forth in **Annex 1** hereof and the relevant details of ETSI are as follows:

Addressee: ETSI, 650 route des Lucioles, 06921 Sophia Antipolis Cedex, France
Attention: Director-General
Facsimile: +33 (0)4 93 65 47 16

In the absence of evidence of earlier receipt, a notice shall take effect and be deemed received:

- (a) in the case of a notice left at the address of the addressee, upon delivery at that address;
- (b) in the case of a posted letter, the seventh day after posting; and
- (c) in the case of a facsimile, on production of a transmission report from the machine from which the facsimile was sent which indicates that the facsimile was sent in its entirety to the facsimile number of the recipient.

A notice received or deemed to be received on a day which is not a Business Day or after 5pm on any Business Day according to local time in the place of receipt, shall be deemed to be received on the next following Business Day.

14. Severance/unenforceable provisions

If any provision or part of the present Agreement is deemed void or unenforceable due to applicable law, it shall be deemed to be deleted and the remaining provisions of the present Agreement shall continue in full force and effect.

15. Variation and waiver**15.1. Variation**

Subject to the [ETSI Directives](#) and the ISG Terms of Reference, this Agreement sets forth the entire agreement of the parties with respect to the subject matter hereof. No variation (including any supplement, deletion or replacement, however effected) of the present Agreement shall be effective unless it is in writing (which for this purpose, does not include e-mail) signed by or on behalf of each of the parties to the present Agreement.

15.2. Waiver

The rights and remedies of the parties shall not be affected by any failure to exercise or delay in exercising any right or remedy or by the giving of any indulgence by any party or by anything whatsoever except a specific waiver or release in writing and any such waiver or release shall not prejudice or affect any other rights or remedies of the parties.

No single or partial exercise of any right or remedy prevents any further or other exercise thereof or the exercise of any other right or remedy.

16. Third party beneficiary (“stipulation pour autrui”)

The Signatory shall have sight of and shall accept the terms and conditions provided for the benefit of the ISG Members in any ISG Participant Agreement entered into between ETSI and an ISG Participant. As a result of such acceptance, all provisions of such an ISG Participant Agreement provided for the benefit of the ISG Members, acting individually or collectively, shall be binding upon the ISG Members and may be enforced by the Signatory pursuant to Article 1205 of the French Civil Code.

17. Governing law, jurisdiction and service of process**17.1. Governing law**

This Agreement shall be governed by and interpreted in accordance with French law.

17.2. Jurisdiction

Each party irrevocably agrees for the benefit of ETSI that any claim, dispute or difference concerning the present Agreement and any matter arising therefrom shall be handled exclusively under the competent Tribunal in the jurisdiction of ETSI’s registered head of office in Grasse (France).

The submission to this specific jurisdiction shall not (and shall not be construed so as to) limit the right of ETSI to bring legal proceedings in any other court of competent jurisdiction including without limitation the courts having jurisdiction by reason of the Signatory’s domicile.

Legal proceedings by ETSI in any one or more jurisdictions shall not preclude legal proceedings by it in any other jurisdiction, whether by way of substantive action on the merits, emergency or provisional relief, injunction, enforcement or otherwise.

17.3. Service of process

Each party agrees that without preventing any other mode of service, any document in an action (including, but not limited to, a claim form or any other document to be served pursuant to the provisions of the French Code of Civil Procedure) may be served on any party at its address for service of notices under the present Agreement and each party undertakes to notify the other party in advance of any change from time to time of the details of such address in accordance with the manner prescribed for service of notices in the present Agreement.

ANNEX 2

Identification of the ISG

Name of the ISG: **Zero touch network and Service Management (ZSM)**

Names of the ISG Founding Members:

- Deutsche Telekom AG
- DOCOMO Communications Laboratories Europe GmbH
- Ericsson L.M.
- Hewlett-Packard Enterprise
- Huawei Technologies France
- IBM Europe
- Intel Corporation (UK) Ltd
- NEC Europe Ltd
- Nokia Germany
- NTT Corporation
- Sprint Corporation
- Telefonica S.A.
- Viavi Solutions Deutsch GmbH
- ZTE Corporation

Date of approval of the creation of the ISG by the ETSI Director-General: **30 November 2017**

Date of approval of the extension of the ISG By the ETSI Director-General: **3 December 2021**

ISG RULES FOR INFORMATION

ANNEX 3**Authorized deviations from the ETSI Technical Working Procedures**

The ISG Founding Members agreed on the following deviations from the applicable ETSI Technical Working Procedures (TWP). The present deviations are based on version 37 (April 2017) of the ETSI Directives.

Network Operators Council**Deviation #1: Network Operators Council**

Source ref: TWP Clause 3.9.1

A Network Operators Council (NOC) may be constituted by the network operators who are ISG Members or ISG Participants. The NOC shall be comprised of representatives of the network operators on a voluntary basis and may provide advice to the ISG on network operator requirements.

Appointment of ISG Chair/Vice-Chairs and/or Working Group Chairs**Deviation #2 “Chair/Vice-Chairs and /or WG Chair mandate duration”**

Source ref: 3.3.1 and 3.3.2

The ISG Chair, Vice-Chairs and Working Group Chairs shall be appointed by ISG Members for a period of two (2) years.

Decision making**Deviation #3: “Kick-off Period”**

Source ref: TWP Clauses 3.7 and 1.7

The Kick-off Period (KoP) shall start at the Kick-off Meeting (KoM) and shall finish after two (2) face-to-face plenary meetings following the KoM.

Deviation #4: “Seeking NOC advice”

Source ref: TWP Clause 3.9.1

If Consensus cannot be achieved, the ISG Chair should in the first instance seek the views of the NOC, on a consultative basis only.

Deviation #5 “Voting weight”

Source ref: TWP Clauses 3.7 and 1.7.1

No deviation, Clause 1.7.1 of the TWP shall apply.

Deviation #6 “Interpreting the result of an election”

Source ref: TWP Clauses 3.7, 1.7.1, 1.7.1.3, and Rules of Procedures Clause 11.4

For interpreting the result of an election for a ISG Chair/Vice-Chair and/or WG Chair the following procedures shall apply.

When, in the first ballot, no candidate has exceeded 50% of the votes cast, a second ballot shall be held. In the second ballot, in cases where there are only two (2) candidates, the candidate obtaining the higher number of votes is elected. In cases where there are more than two (2) candidates, if none of them has exceeded 50% of the votes, a third and final ballot shall be held among the two (2) candidates who have obtained the highest number of votes in the second ballot. The candidate obtaining the higher number of votes in the third ballot is then elected.

Voting during an ISG meeting**Deviation #7 “Voting during an ISG meeting”**

Source ref: TWP Clause 3.7 and 1.7.1.1

- ISG Members are eligible for voting (voting Members) if they have physically attended at least two (2) of the previous three (3) face-to-face plenary meetings (KoM is included in plenary count).
- ISG Founding Members as identified in the present Agreement are eligible for voting during and up to the end of the KoP. Thereafter they are subject to the same participation requirements as all other ISG Members.
- To cast their vote, voting Members shall be physically present at the meeting.

Voting by correspondence**Deviation #8 “Voting by correspondence”**

Source ref: TWP Clauses 3.7 and 1.7.1.2

- Electronic voting only shall be used for voting by correspondence (e.g. ETSI tool <https://portal.etsi.org/webapp/tbdecision3/Help/voting.asp>).
- The vote shall be announced to everybody on the ISG membership list at least thirty (30) days before the vote.
- ISG Members are eligible for voting (voting Members) if they have physically attended at least two (2) of the previous three (3) plenary meetings.
- ISG Founding Members as identified in the present Agreement are eligible for voting during and up to the end of the KoP. Thereafter they are subject to the same participation requirements as all other ISG Members.

Appealing against an ISG Chair's decision**Deviation #9 “Appealing against an ISG Chair's decision”**

Source ref: TWP Clauses 3.7 and 1.7.2

Any ISG Member or ISG Participant who is against an ISG Chair's decision may submit its case to the Director-General for arbitration. In such cases the ISG Member or ISG Participant shall also inform the ISG Chair. When the ISG Chair has made a ruling, his decision shall be taken as the basis for future operations, unless overturned by the Director-General.

ANNEX 4

Terms of Reference (ToR) for ETSI ISG Zero touch network and Service Management (ISG ZSM)

Approved by the ETSI Director-General on **3 December 2021** following Board#135 Consultation

Scope

The “Industry Specification Group Zero touch network and Service Management” (ISG ZSM) is working on the definition of a new, future-proof, horizontal and vertical end-to-end operable architecture framework, solutions, and core technologies to enable agile, efficient and qualitative management and automation of emerging and future networks and services. Horizontal end-to-end refers to cross-domain, cross-technology aspects. Vertical end-to-end refers to cross-layer aspects, from the resource-oriented up to the customer-oriented layers. The goal is to have all operational processes and tasks (e.g., delivery, deployment, configuration, assurance, and optimization) executed automatically, ideally with 100% automation.

The highest priority of the ISG ZSM is to progress and finalize the second term work (e.g., end-to-end cross-domain automated service orchestration, closed-loop automation solutions and advanced topics, study of intent-driven autonomous networks, enablers for artificial intelligence-based network and service automation, CI/CD automation, security capabilities, etc.).

In addition, the ISG plans to maintain and enhance the existing specifications, and produce new specifications addressing the next level of details needed to enable full end-to-end automation of network and service management.

The ISG intends to analyse existing specifications and solutions (both ETSI and external ones) and where appropriate leverage them to avoid duplication and maximize synergies.

The ISG will continue to strengthen the collaboration with the relevant standardization bodies, open-source projects and fora in order to promote the adoption of and alignment with the ZSM architecture and solutions to ensure automated end-to-end network and service management can be achieved. It will also utilize the collaboration to discuss and align on gaps that need to be filled. The ISG ZSM plans to work constructively with open-source communities to ensure alignment that will allow integrating open-source software components in ZSM-based solutions. The ISG ZSM aims to act as a central point for end-to-end network and service automation and facilitate the coordination and cooperation between relevant standardization bodies and open-source projects. The unique value of ISG ZSM will be in providing guidance to the implementation of management interfaces as well as coordinating and giving directions to achieve automated end-to-end network and service management solutions and architecture. In addition, the ZSM key automation technologies should be leveraged by other organizations (e.g. 3GPP, O-RAN), to ensure cross-use cases, cross-domains, cross-planes, interoperable, unified and consistent automated and cognitive operation.

The ISG ZSM will encourage the creation of Proof of Concepts (PoCs) to demonstrate the viability of ZSM implementations. The results and lessons learnt from the ZSM PoCs will be channelled to the ISG ZSM specification work. In its specification work, the ISG will take into consideration also feedback and findings from real deployments and operational experience.

The ISG ZSM will consider to complement the cooperation with other standardization bodies and open source projects with interoperability testing specifications, test platforms, acceptance tests, and test results dissemination (to be considered in the specifications activities) in the context of end-to-end management and automation. This work will be done in collaboration with the related organizations.

The ISG ZSM will continue its effort to disseminate its results and accelerate the development of compliant solutions.

Areas of activity include:

- further details of the Integration Fabric and the management services,
- enablers for AI/ML applications in support of network and service automation,
- intent-based automation and cognitive operations,
- unified and expressive data formats to support AI/ML,
- cross-domain data services,
- support for new IT/Telco/Enterprise business models,
- design time capabilities in support of the run-time automation, e.g. CI/CD, closed loops, Network as a Service (NaaS),
- support for network of networks,

- support for continuous testing
- security capabilities to protect the ZSM framework, services and automated processes

The ISG will assess the implications of emerging technologies on automation and consider that in its work. .
New compelling use cases may identify additional missing parts that the ISG will agree to work on.

ISG RULES FOR INFORMATION

Annex (informative): collaboration with other bodies

Close collaboration and coordination with other standard groups is required to ensure that all the organizations together provide complementary solutions. It will also be necessary to identify and agree the roles of the corresponding standardization bodies in filling the identified gaps.

ISG ZSM will setup the appropriate communication channels to the following groups both within and outside of ETSI.

ETSI groups

The ISG initially intends to establish relationship with the following ETSI groups:

- ETSI PP 3GPP
- ETSI ISG ENI
- ETSI ISG MEC
- ETSI ISG NFV
- ETSI OSG OSM

and others as identified during the progression of the work.

External groups

The ISG also intends to cooperate with a number of external organizations including:

- BBF
- DMTF
- GSMA
- IEEE
- IETF
- ITU-T FG AN
- NGMN
- OASIS
- ONAP
- ONF
- O-RAN Alliance
- MEF
- TMF

and others as identified during the progression of the work.