

# ETSI

## Industry Specification Group Agreement relating to ISG QSC (Quantum-Safe Cryptography)

**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, 06921 Sophia Antipolis Cedex, France, represented by its Director-General, (hereinafter referred to as the “Director-General”)

**and**

The member specifically identified in Annex 1 hereof (hereinafter referred to as the “Member”).

**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 Member is, as specified in Annex 1 hereof, either (i) a full or associate member of ETSI wishing to participate in the work of the Industry Specification Group identified in Annex 2 hereof (hereinafter, the “ISG”), or (ii) has applied for full or associate ETSI 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;
- D. The Member wishes to participate in the work of the ISG as a member (as this term is defined below) and, in accordance with clause 3.4 of the ETSI Technical Working Procedures, has agreed to enter into and be bound by the terms of this Industry Specification Group Agreement (hereinafter, the “ISG 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 5 of this ISG Agreement and any authorized deviations from the ETSI Technical Working Procedures provided under Article 6 of this ISG Agreement, the parties hereby agree to be bound by and comply with the terms and rules relating to the creation, organization, operation and cessation applicable to Industry Specification Groups set forth in the ETSI Directives, including the ETSI Guidelines for Antitrust Compliance (hereinafter, the “ETSI Directives”, available at <http://portal.etsi.org/directives/home.asp>), and the Terms of Reference, which shall be incorporated by reference and form an integral part hereof. All capitalized terms and expressions not otherwise defined herein shall have the meaning ascribed to them in the ETSI Directives.

## 1.2 Definitions

In this ISG 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) "Additional Costs" shall have the meaning ascribed to it in Article 3.1(c) of this ISG Agreement;
- (b) "budget year" shall mean a calendar year, it being provided that the first budget year shall mean the period between the date of the approval of the creation of the ISG and the Terms of Reference by the Director-General and December 31 of that year;
- (c) "Director-General" shall have the meaning ascribed to it in the presentation of the parties;
- (d) "Discretionary Decisions" shall have the meaning ascribed to it in Article 5.1 of this ISG Agreement;
- (e) "ETSI Directives" shall have the meaning ascribed to it in Article 1.1 of this ISG Agreement;
- (f) "ETSI IPR Policy" shall have the meaning ascribed to it in Article 2 of this ISG Agreement;
- (g) "Initial Resource Requirements" shall have the meaning ascribed to it in Article 3.1(a) of this ISG Agreement;
- (h) "ISG Budget" shall have the meaning ascribed to it in Article 3.1(b) of this ISG Agreement;
- (i) "member" shall mean, when used in relation to the ISG, any legal entity participating in the work of the ISG other than an Observer or a Counsellor and who is a full or associate member of ETSI or an applicant to full or associate ETSI membership authorized to participate in the work of the ISG by the Director-General;
- (j) "Member" shall have the meaning ascribed to it in the presentation of the parties; and
- (k) "Participant" shall mean, either a Counsellor, an Observer, or a legal entity which, even though it is not a full or associate member of ETSI or an applicant to full or associate ETSI membership, wishes to participate in the work of the ISG and has agreed to enter into an ISG Participant Agreement.
- (l) "Terms of Reference" shall mean those Terms of Reference (as such expression is defined in the ETSI Directives) approved by the Director-General on the date set forth in Annex 2 hereof as well as their subsequent versions and evolutions, setting out, *inter alia*, the purpose, scope, initial resource requirements and organization of the ISG.

## 2. Intellectual property

The Member agrees to the terms of, and shall abide by, the ETSI IPR Policy set forth in Annex 6 of the ETSI Rules of Procedure of December 2014 and their subsequent versions and evolutions (hereinafter, the "ETSI IPR Policy"), and to treat any specifications produced by the ISG as Technical Specifications under the ETSI IPR Policy.

### 3. Operational Costs

All costs related to the operation of the ISG, except those described in Article 4, shall be supported by the ISG Members in accordance with Articles 3.1., 3.2 and 3.3.

#### 3.1 Budget

The costs of operation of the ISG shall comprise the following elements:

- (a) initial resource requirements for the first budget year as set forth in the Terms of Reference (hereinafter, the "Initial Resource Requirements");
- (b) a budget setting out the costs of operation of the ISG (beyond the costs of basic administrative support provided by the ETSI Secretariat pursuant to Article 4 of this Agreement) established for each budget year by the members of the ISG (hereinafter, the "ISG Budget"), which the Chairman of the ISG shall notify to ETSI at the latest on November 30 of each year;
- (c) additional costs not accounted for in the ISG Budget which the members of the ISG may agree to incur during the course of each budget year (hereinafter, the "Additional Costs"), which shall be notified to ETSI by the Chairman of the ISG.

Without prejudice to Article 3.3. of this ISG Agreement, ETSI shall incur upfront the costs provided for in the Initial Resource Requirements and the ISG Budget, provided however that (i) ETSI shall only incur upfront the costs provided for in the ISG Budget under the condition that such ISG Budget has been notified to the ETSI Director-General pursuant to Article 3.1(b) of this ISG Agreement, and (ii) the ETSI Director-General may, at its discretion, refuse to incur costs under certain items provided for in the ISG Budget to the extent that they bear no direct relationship to the purpose or scope of the ISG set forth in the Terms of Reference.

Without prejudice to Article 3.3 of this ISG Agreement, ETSI shall only incur Additional Costs at the discretion of the ETSI-Director General.

The members of the ISG shall be responsible for any costs provided for in the ISG Budget or any Additional Costs which have not been approved by the ETSI Director-General or which ETSI has refused to incur, pursuant to separate arrangements among them. The Member shall be solely liable for any cost it incurs in relation to the ISG and expressly acknowledges that ETSI shall have no liability in that regard and no obligation to reimburse such costs.

Any costs incurred by ETSI under the Initial Resource Requirements, the ISG Budget and the Additional Costs shall be invoiced by ETSI to the members of the ISG pursuant to Article 3.3 of this ISG Agreement.

Except as expressly provided above or in Article 4 of this ISG Agreement, ETSI shall have no obligation to incur any costs for the operation the ISG.

#### 3.2 Allocation of costs

Unless otherwise provided for in Annex 3 hereof, the Member agrees that all members of the ISG shall contribute equally to the Initial Resource Requirements, the ISG Budget and the Additional Costs, and that ETSI shall be entitled to invoice the Member on that basis pursuant to Article 3.3 of this ISG Agreement.

[The parties however agree that the members of the ISG may decide to modify the allocation of costs among the members of the ISG, provided that the decision is taken pursuant to unanimous decision. Such decision shall be notified by the Chairman of the ISG to the ETSI Director-General by registered letter and become effective as from the date of its receipt by the ETSI Director-General.]

In the event that the Member joins the ISG during the course of a budget year, its contribution to the costs of the operation of the ISG for the remainder of the budget year shall be decided by the members of the ISG pursuant to a decision taken in accordance with the process set forth in Article 5.3 of this ISG Agreement in which the Member shall take part and which shall be notified by the Chairman of the ISG to the ETSI Director-General and become effective as from the date of its receipt by the ETSI Director-General.

### 3.3 Invoices

In accordance with article 3.1, ETSI shall invoice quarterly the amounts owed by the Member corresponding to its contribution to the Initial Resource Requirements and/or the ISG Budget.

ETSI shall be entitled to invoice the amounts owed by the Member corresponding to its contribution to the Additional Costs as from the first day of the month after which the Additional Costs have been notified to the ETSI Director-General by the Chairman of the ISG.

The amounts invoiced by ETSI shall be payable by the Member upon presentation of the invoice to the Member.

## 4. Secretariat support

The ETSI Secretariat shall provide, at no additional cost to the members of the ISG, basic administrative support as described in the Terms of Reference.

The Chairman of the ISG may request that the ISG receive additional administrative support from the ETSI Secretariat, provided that ETSI agrees and:

- (a) either the members of the ISG 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;
- (b) or resources corresponding to such additional support are approved by the ETSI Board upon petition by the Chairman of the ISG.

## 5. Decision making

### 5.1 Discretionary Decisions

The ISG shall be operated pursuant to the rules set forth in the ETSI Technical Working Procedures, provided however that (i) the members of the ISG may take decisions on issues concerning its organizational structure, the Terms of Reference of its Working Groups, the approval of draft ETSI Group Specifications and more generally, any matter which is left at their discretion under the ETSI Directives (hereafter, the "Discretionary Decisions") and (ii) , the members of the ISG may take decisions on the operational costs of the ISG pursuant to Article 3 of this ISG Agreement.

### 5.2 General decision making process

In accordance with clause 3.7 of the ETSI Technical Working Procedures, and subject to the provisions of Articles 5.3 and 1.1 of this ISG Agreement, the Member agrees that the Discretionary Decisions taken by the members of the ISG shall be binding upon the Member when taken according to the rules laid down in clause 1.7 of the ETSI Technical Working Procedures for Technical Bodies, except for any variations provided for in [Annex 4](#) hereof. The Member undertakes to comply with all applicable laws and regulations, including Community and national competition laws and regulations, and to refrain from implementing any discriminatory or exclusionary decision making process in the context of the ISG.

### 5.3 Decisions concerning operational costs

Decisions concerning (i) the ISG Budget under Article 3.1(b) of this ISG Agreement, (ii) Additional Costs under Article 3.1(c) of this ISG Agreement, and (iii) the allocation of costs among members of the ISG under Article 3.2 of this ISG Agreement, shall be binding upon the Member when taken by the members of the ISG pursuant to a unanimous decision.

## **6. 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 5 hereof.

## **7. No assignment**

The rights and obligations of the Member under this ISG Agreement are personal to the Member 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 clause shall be ineffective.

## **8. Limitation of liability**

ETSI, its officers, employees and agents shall have no liability to the Member 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. ETSI's total liability to the Member under this ISG Agreement shall be limited to the amounts paid by the Member to ETSI pursuant to this ISG Agreement in the budget year during which the Member's claim against ETSI arose.

## **9. Term and termination**

### **9.1 Date of Termination**

This ISG 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 cessation of the ISG, (ii) the date of the Member's resignation from the ISG, (iii) the date of the Member's resignation or expulsion from ETSI, (iv) the date of receipt of a notice of termination sent by ETSI at its discretion in the event that the Member commits a material breach of any of its obligations under this ISG Agreement (including the ETSI Directives and the Terms of Reference incorporated by reference pursuant to Article 1.1 of this ISG Agreement) 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 cessation 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 Member may resign as member of the ISG at any time by sending a notice of resignation to the Chairman of the ISG and the Director-General, and the date of the Member's resignation from the ISG shall be deemed to be the date of receipt of the notice of resignation by the Director-General;
- (c) the date of the Member's resignation or expulsion from ETSI shall be determined pursuant to Article 1.4 of the ETSI Rules of Procedure;
- (d) the notice of termination sent by ETSI in the event of a material breach of its obligations by the Member under this ISG Agreement shall be sent to the Chairman of the ISG and the Member, and the date of receipt of the notice of termination shall be deemed to be the date of its receipt by the Member.

### **9.2 Effect of termination**

Upon occurrence of the Date of Termination, this ISG Agreement shall automatically terminate and the Member shall cease to participate in the work of the ISG and to contribute to the costs of operation of the ISG in accordance with the provisions of Article 3 of this ISG Agreement, and shall no longer receive any benefit or information as member of the ISG, it being provided however that termination of this ISG 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 Member shall remain bound to duly perform and complete any and all obligations which shall have arisen out of or in connection with this ISG 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 this ISG 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 this ISG Agreement (except in the event of the Member'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 this ISG Agreement prior to the Date of Termination.

### 9.3 Cessation of the ISG

In the event of cessation of the ISG, the parties agree that:

- (a) any amounts provided for in the Initial Resource Requirements, the ISG Budget, the Additional Costs or Article 4(a) of this ISG Agreement which have been contributed by the members of the ISG but have not yet been committed to be paid by ETSI prior to the date of cessation of the ISG (as determined pursuant to Article 9.1(a) of this ISG Agreement) shall be distributed among the members of the ISG pro rata according to the share of each member's contribution;
- (b) the members of the ISG shall, prior to the date of cessation of the ISG (as determined pursuant to Article 9.1(a) of this ISG Agreement), submit to the Director-General recommendations concerning the maintenance of the ETSI deliverables produced by the ISG.

## 10. Notice

A notice (including any approval, consent, request, or other communication) in connection with this ISG 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 clause, and, for the avoidance of doubt, must not be sent by e-mail.

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

Address: 650 route des Lucioles, 06921 Sophia Antipolis Cedex, France

Facsimile: +33 (0)4 93 65 47 16

Attention: ETSI Director General

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 5 p.m. 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. For the purposes of this clause, "Business Day" shall mean a day not being a Saturday on which trading banks are generally open for business in the place where the notice is received.

## **11. Severance/unenforceable provisions**

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

## **12. Variation and waiver**

### **12.1 Variation**

Subject to the ETSI Directives and the 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 this ISG 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 this ISG Agreement.

### **12.2 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.

## **13. Third party beneficiary (stipulation pour autrui)**

The Member shall have sight of and shall accept the terms and conditions provided for the benefit of members of the ISG in any agreement (hereinafter, the "ISG Participant Agreement") entered into between ETSI and any Observer, person or legal entity who is not a full or associate member of ETSI and which has been invited or authorized by the Chairman of the ISG to attend the meetings of the ISG (hereinafter, the "Participant"). As a result of such acceptance, all provisions of such ISG Participant Agreement provided for the benefit of the members of the ISG, acting individually or collectively, shall be binding upon the Participant and may be enforced by the Member pursuant to Article 1121 of the French Civil Code.

## **14. Governing law, jurisdiction and service of process**

### **14.1 Governing law**

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

### **14.2 Jurisdiction**

Each party irrevocably agrees for the benefit of ETSI that the *Tribunal de Commerce de Grasse* shall have jurisdiction in relation to any claim, dispute or difference concerning this ISG Agreement and any matter arising therefrom.

The submission to the jurisdiction of the *Tribunal de Commerce de Grasse* 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 Member'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.

#### 14.3 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 this ISG 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 this ISG Agreement.

Made in two (2) originals  
In Sophia Antipolis  
On [date]

For ETSI

For the Member

\_\_\_\_\_  
ETSI  
Director-General

\_\_\_\_\_  
[signatory's name]  
[signatory's title]

**Annex 1****Identification of the Member**

- Full name of the organization:
- Nationality:
- Legal form:
- Identification number, or VAT number:
- Notification details:

Attention:

Address:

Facsimile:

Telephone:

Email-address:

Web-address:

The Member represents and warrants that it:

*(please choose one of the bullets below; delete or strike through the text of the three bullet points which are not applicable)*

- is a full member of ETSI
- is an associate member of ETSI
- has applied for full ETSI membership and has been authorized by the Director-General to participate in the work of ISG on a provisional basis.
- has applied for associate ETSI membership and has been authorized by the Director-General to participate in the work of ISG on a provisional basis.

The representative of the Member whose name and title appear on the signature page of this ISG Agreement is duly authorized for the purposes hereof.

**Annex 2**

**Identification of the ISG**

- Name of the ISG: Quantum-Safe Cryptography (QSC)
- Names of the founding members of the ISG:
  - Approach Infinity
  - C3L (Cadzow Communications Consulting Ltd)
  - CESG
  - PIDS
  - University of Waterloo
- Date of approval of the creation of the ISG QSC (Quantum-Safe Cryptography) and the Terms of Reference by the Director-General: 05. Feb. 2015

**Annex 3**

**Allocation of the costs of operation among members of the ISG**

No operational costs are foreseen at the creation of the ISG. No specific provision for the allocation of operational costs has been made, beyond the default provision in clause 3.2 above.

## **Annex 4**

### **Variations in the general decision making process**

The following decision making process is applied to this ISG, instead of the process described in the ETSI Technical Working Procedures clause 1.7:

#### **1 Principles of decision making (TWP 1.7.1)**

An Industry Specification Group shall endeavour to reach Consensus on all issues, including the approval of draft Group Specifications. If Consensus cannot be achieved, the Chairman can decide to take a vote which may be performed by a secret ballot.

A vote may be conducted during an Industry Specification Group meeting or by correspondence.

Where voting is used, vote results shall be evaluated by the Chairman on the basis of one ISG Member, one vote. ISG Participants do not have the right to vote.

Decisions concerning

- (i) the ISG Budget under Article 3.1(b) of the ISG QSC Agreement,
- (ii) Additional Costs under Article 3.1(c) of the ISG QSC Agreement, and
- (iii) the allocation of costs among members of the ISG QSC under Article 3.2 of the ISG QSC Agreement, require unanimous support of the ISG QSC Members. For all other decisions, except for the appointment of officials of the ISG QSC, a proposal shall be deemed to be approved if 71 % of the votes cast are in favour. Abstentions or failure to submit a vote shall not be included in determining the number of votes cast.

For interpreting the result of an election for an official of the Industry Specification Group, a simple majority of the votes cast shall be used (*see 1.3 below*).

#### **1.1 Voting during an Industry Specification Group meeting (TWP 1.7.1.1)**

The following procedures apply for voting during an ISG QSC meeting:

- before voting, a clear definition of the issues shall be provided by the chairman;
- voting members shall only be entitled to one vote per member;
- if a voting member has more than one representative present, only one representative may vote;
- if manual voting procedures are used, each voting member may only cast the vote once;
- if electronic voting procedures are used, votes may be changed prior to the closure of the vote;
- ISG QSC members are only eligible for voting (voting members), if they have been present during at least two out of the previous 3 meetings;
- Founding Members of the ISG as identified in the ISG Agreement shall be eligible to vote during and up to the end of the first three meetings following the creation of the ISG. Thereafter they are subject to the above participation requirements as for all other members;
- voting by proxy is not permitted;
- there are no quorum requirements;
- the result including percentages of the vote shall be recorded in the meeting report.

#### **1.2 Voting by correspondence (TWP 1.7.1.2)**

The following procedures apply for voting by correspondence:

- before voting, a clear definition of the issues shall be provided by the Chairman and disseminated to all on the ISG QSC membership list;
- the voting period shall be defined by the ISG QSC Chairman and communicated to all on the ISG QSC membership list;
- ISG QSC members are only eligible for voting (voting members), if they have been present during at least two out of the previous 3 meetings;

- Founding Members of the ISG as identified in the ISG Agreement shall be eligible to vote during and up to the end of the first three meetings following the creation of the ISG. Thereafter they are subject to the above participation requirements as for all other members;
- voting members shall only be entitled to one vote per member;
- if electronic voting procedures are used votes may be changed prior to the closure of the vote;
- there are no quorum requirements;
- at the end of the voting period the Chairman shall count the votes as described in clause TWP 1.7.1.2;
- the result of the vote should be disseminated to everybody on the ISG membership list within 15 days.

### **1.3            *Voting for the election of an Industry Specification Group official (TWP 1.7.1.3)***

For the purpose of electing any Industry Specification Group official the procedures given in clauses 1, 1.1 and 1.2 of Annex 4 shall apply.

In the case where there is more than one candidate, a secret ballot shall be used. For interpreting the result of an election for an Industry Specification Group official the following procedure shall apply: the candidate obtaining the highest number of votes in the ballot is elected.

The ISG QSC Chairman shall be responsible for the voting process and shall ensure that confidentiality is maintained.

If the vote is conducted during an ISG QSC meeting only the final result shall be recorded in the meeting report.

If the vote is conducted by correspondence only the final result of the vote shall be disseminated.

**Annex 5**

**Authorized Deviations from the ETSI Technical Working Procedures**

- The duration of chairmanship is 2 years.
- One vote per member.
- Founding members acquire voting rights from the very beginning.
- ISG QSC members are only eligible for voting (voting members), if they have been present during at least two out of the previous 3 physical meetings.
- Non-member participation (subject to signature of a special agreement) will be charged on the basis of 700.- Euros per person per meeting.
- Non-member participation rights will be terminated if the participant has not participated in at least 2 physical meetings of the ISG QSC in a 12 months period.

**Annex 6****Scope of ISG QSC (Quantum-Safe Cryptography)**

The QSC ISG will aim to make recommendations on core cryptographic primitives and develop ETSI Group Specifications (GSs) for quantum-safe ICT applications highlighted by industry. It will also aim to offer practical advice and guidance to industry on real-world deployment issues, such as transition timescales, generic requirements from operators or vendors, assessment of threats and risks, etc.

The activities of the QSC ISG will be performed in close co-operation with relevant standards activities within and outside ETSI, including QKD ISG and TC CYBER. It is not the intention of the ISG to work on items already covered by the QKD ISG.

The work of the QSC ISG will include:

- Identification of proposals from industry and academia for quantum safe cryptographic primitives, and the development of a framework for quantum safe algorithms.
- High-level characterization of these primitives in term of computational complexity, security assumptions against classical and quantum threats, efficiency and agility.
- Assessment of the suitability of the cryptographic primitives with respect to the quantum safe requirements and applications.
- Threat and risk assessment for real-world use cases.
- Providing evidence of the need for new standards and technological guidance, along with a development roadmap, including performance standards and verification techniques for quantum safe algorithms.
- Dissemination of guidance and standards documents, and later maintenance of the standardised algorithms under the custodianship of the ETSI SC Security Algorithms Group of Experts (SAGE).
- Defining criteria for, and assessment of, the suitability of cryptographic primitives.