

Full Service Access Network (FSAN) Association

2025 Charter

Preamble

First established by seven telecommunication operators in 1995 for the purpose of formulating the minimum requirement set for the optical transceivers in the access application, in its quarter of a century history FSAN has played a pivotal role in formulating the requirements, charting the roadmap, and coordinating the standardization of four consecutive generations of the ITU-T Passive Optical Network Systems.

Recognizing the advantages of voluntary consensus standardization of the optical access technology, and

Recognizing the role of operator companies in directly facing and meeting the growing needs of the residential and business end-users, and

Recognizing the compelling need to embrace technical innovation and foster a competitive environment, and

Driven by the desire to strengthen the position of FSAN as an independent voluntary consensus standards body,

We, the operator company members of FSAN:

AT&T Services, Inc.,

British Telecommunications PLC,

China Telecommunications Corporation,

China United Network Communications Corporation Limited,

Chunghwa Telecom Co., Ltd.,

Deutsche Telekom AG, Deutsche Telekom Technik GmbH,

KDDI Corporation,

Nippon Telegraph and Telephone Corporation,

Orange S.A.,

SK Telecom Co., Ltd,

TIM S.p.A.

Telekom Malaysia Berhad,

Verizon Communications Inc.,

agree to renew the FSAN charter as presented below.

1. Definition

FSAN (an acronym for Full Service Access Network), is a world-wide industry association of operator companies (service providers that either own or lease the network infrastructure, and network infrastructure providers) who are interested in and committed to the advancement of optical access networks, technologies and services. FSAN coordinates the development of voluntary consensus standards in the field of optical access networks to improve the technology and distribution of broadband optical access services and products for the benefit of the industry as a whole, its customers and consumers (the “Purpose”). FSAN achieves its Purpose through open discussion of publicly available historical, technical and scientific information and by means of liaisons with and member contributions to the relevant standard-development organizations. As a voluntary consensus standards body, FSAN operates on the principles of openness, balance, due process, appeals, and consensus.

2. FSAN Participation

FSAN allows three types of participation, according to the requirements set forth in this Section. An entity participating in FSAN through any of the three types of participation is referred to in this Charter as a “Participant”.

2.1.Member

2.1.1. Participation as an FSAN “Member” is open, subject to the procedure set forth under Section 2.1.3, to operator companies who:

- (1) are interested in the advancement of optical access technology, services, products, systems, and/or components; and
- (2) agree to all rights and obligations of this Charter, including, but not limited to FSAN’s Antitrust/Competition Law Compliance Policy and Intellectual Property Policy.

2.1.2. Companies desiring to join FSAN as a Member shall be reviewed by the FSAN Management Committee (see clause 4.1) to ensure that the company is an operator company and meets criteria (1) and (2) set forth in Section 2.1.1. The FSAN Management Committee may require prospective Members to provide written applications and any additional information to ensure compliance with the Member criteria.

2.1.3. Each FSAN Member may, at its option, participate in drafting the calls for contributions (CFCs) and meeting agendas, author contributions, attend meetings, and access the FSAN website and other online communication tools

(e.g., email exploder lists). FSAN Members may participate in the FSAN Management Committee according to the process described herein.

2.2.Consultants

- 2.2.1. Participation as an FSAN “Consultant” shall be open to representatives of the system and component vendor community, the research community, and the interoperability testing lab community that are invited by the FSAN Management Committee to participate as Consultants in order to provide their expertise in current and forward-looking technical items involving optical access networks. FSAN Consultants must agree to the obligations of this Charter, including FSAN’s Antitrust/Competition Law Compliance Policy and Intellectual Property Policy. The FSAN Management Committee may require prospective Consultants to provide written applications and any additional information to ensure compliance with the criteria for participating as a Consultant.
- 2.2.2. Consistent with the scope of their invitation, FSAN Consultants can author contributions, attend meetings, and access the FSAN website and other online communication tools (e.g., email exploder lists).
- 2.2.3. Consultant status will be valid only for the term of one (1) calendar year and is automatically renewed as long as the Consultant participates in at least one (1) meeting within the term.

2.3.Observers

- 2.3.1. Participation as an FSAN “Observer” is open to any non-operator companies (or any operator companies that choose not to become Members) who:
 1. are interested in the advancement of optical access technology, services, products, systems, and/or components; and
 2. agree to the obligations of this Charter, including FSAN’s Antitrust/Competition Law Compliance Policy and Intellectual Property Policy.
- 2.3.2. Companies desiring to join FSAN as an Observer are reviewed by the FSAN Management Committee (see clause 4.1) to ensure that the company meets the criteria for becoming an Observer set forth in Section 2.3.1. The FSAN Management Committee may require prospective Observers to provide written applications and any additional information to ensure compliance with Observer participation criteria.

2.3.3. FSAN Observers can attend meetings, and access the FSAN website and other online communications tools (e.g., email exploder lists).

2.3.4. Observer status will be valid for as long as the Observer continues to meet the Observer participation criteria of Section 2.3.1. An Observer willing to provide their technical expertise on the items of interest to FSAN may become a Consultant upon request to (and approval by) the FSAN Management Committee, after attending at least one (1) meeting.

3. Principles of FSAN Operation

When taking actions with respect to the Purpose and all Participants, FSAN shall operate in light of the following principles.

3.1.Openness

FSAN technical meetings will be open to all FSAN Participants. Meeting agendas, calls for contributions, contributions themselves, and meeting readouts shall be published on the FSAN website such that they can be accessed by FSAN Participants. FSAN technical meetings may be conducted face-to-face, remotely over online communications tools, or hybridly (combination of face-to-face and remotely online), and this manner of conducting the meeting will be made known in advance.

3.2.Balance

FSAN will be open to Participants from a broad range of parties who have interest in the Purpose, where possible representing different countries and regions, so that no single interest dominates the deliberations and the consensus-building process.

3.3.Due process

FSAN will make its policies and procedures available to all Participants, and will provide adequate notice of meetings, provide sufficient time to review drafts and prepare views and objections, provide access to views and objections of other participants, provide a fair and impartial process for resolving conflicting views, and use inclusive language in documents and communications.

3.4.Appeals

Any Participant may bring an appeal of any procedural matter directly to the FSAN Chair or FSAN Management Committee.

3.5.Consensus

FSAN will strive to achieve consensus on the matters under discussion. Consensus is defined as general agreement, but not necessarily unanimity. During the development of consensus, comments and objections will be considered using fair, impartial, open, and transparent processes.

Participation in an FSAN proceeding does not imply a commitment to join a contribution to a standard-development body on behalf of FSAN, or to abstain from submitting an alternative contribution to a standard-development body.

4. FSAN Management Structure

4.1.Management Committee

A Management Committee is responsible for directing FSAN activities, developing and maintaining FSAN operational guidelines, and making decisions for management issues. The FSAN Management Committee shall consist of a number of Members, each acting through an appointed representative. Any Members that are Affiliates shall be represented by the same appointed representative, and shall have only one vote.

Initially, the FSAN Management Committee shall be composed of the operator companies that have initiated the FSAN charter renewal. Afterwards, to retain or acquire the ability to participate in the Management Committee (such as to make motions and cast votes), an FSAN Member must attend two out of four most recent meetings (which include the current meeting, if one is in session). Meeting attendance can be either online or in person.

4.2.FSAN Chair

FSAN shall have a position known as the FSAN Chair that shall have the following responsibilities:

- calls and moderates FSAN meetings, prepares and publishes meeting summary;
- serves as chair of the Management Committee;
- represents FSAN in interactions with external entities;
- manages applications of new members/observers, and invitations to consultants;
- maintains Participant status records, including a list of Members and their representatives;
- oversees submission and review of procedural appeals.

The FSAN Chair must be an appointed representative of a Member. The FSAN Chair term is three (3) years. The FSAN Chair shall not be entitled to any compensation for service as FSAN Chair.

The initial FSAN Chair shall be elected by the Management Committee. At the end of FSAN Chair's tenure (full or partial term), the FSAN Vice Chair shall assume the role of FSAN Chair and serve a full three year term.

The tenure of the FSAN Chair shall terminate prior to the full three year term if:

- the person serving as FSAN Chair resigns from this position by notifying the Management Committee in writing;
- the Member for which the FSAN Chair is the appointed representative withdraws, is suspended or is terminated from participation in FSAN;
- the person serving as FSAN Chair is no longer the appointed representative for an FSAN Member (such as through the termination of employment); or
- the Management Committee approves a motion to remove the person serving as FSAN Chair.

Upon early termination of the tenure of the FSAN Chair, the FSAN Vice Chair shall assume the position of FSAN Chair (for a full three year term), and the Management Committee shall undertake the process to elect a new FSAN Vice Chair.

4.3.FSAN Vice Chair

FSAN shall have a position known as the FSAN Vice Chair that shall have the following responsibilities:

- arranges meeting host sequence, coordinates meeting logistics with hosts;
- organizes the preparation of CFC;
- performs tasks delegated by the Chair.

The FSAN Vice Chair must be an appointed representative of a Member. FSAN Vice Chair is elected by the FSAN Management Committee members whenever the position becomes vacant, and shall have a tenure that continues until becoming FSAN Chair. Where feasible based on the members at the time of election, the FSAN Chair and Vice Chair shall each represent members with primary operations in different countries. The FSAN Vice Chair shall not be entitled to any compensation for service as FSAN Vice Chair.

The tenure of the FSAN Vice Chair shall terminate if:

- the person serving as FSAN Vice Chair resigns from this position by notifying the Management Committee in writing;
- the Member for which the FSAN Vice Chair is the appointed representative withdraws, is suspended or is terminated from participation in FSAN;

- the person serving as FSAN Vice Chair is no longer the appointed representative for an FSAN Member (such as through the termination of employment); or
- the Management Committee approves a motion to remove the person serving as FSAN Vice Chair.

Upon termination of the tenure of the of the FSAN Vice Chair, the Management Committee shall undertake the process to elect a new FSAN Vice Chair.

4.4.Honorary Chairmanship

Upon completion of Chair's tenure, the Management Committee may appoint the outgoing FSAN Chair as an Honorary FSAN Chair. An Honorary Chair serves in an advisory role facilitating experience transfer and may perform operational tasks as delegated by the Chair and Vice Chair. An Honorary Chair can participate in the Management Committee meetings as long as one retains affiliation with an FSAN Member company.

The Honorary Chairmanship terminates if:

- the person serving in an Honorary Chair role resigns from this position by notifying the Management Committee in writing;
- the Management Committee approves a motion to remove the person serving as an Honorary Chair.

5. FSAN Decision Making Process

- For technical issues
 - FSAN is a place to build technical consensus by deepening technical understanding among the members.
 - FSAN's outputs may include meeting reports that contain technical findings and consensuses, joint contributions to standard-development organizations, and publications like white papers and technical roadmaps.
 - FSAN will operate according to the principles set forth in this Charter (Clause 3). The FSAN Management Committee may establish policies and procedures that govern and guide the operation of FSAN, consistent with this Charter.
- For management issues
 - FSAN management decisions are made by the FSAN Management Committee.
 - Management issues shall include, but are not limited to:
 - amendments to the Charter,
 - FSAN operational policies and procedures,

- the establishment of and changes to any organizational structure necessary to the Purpose,
 - election of the FSAN Chair and FSAN Vice Chair,
 - removal of the FSAN Chair and FSAN Vice Chair,
 - appointment and removal of an Honorary FSAN Chair,
 - approval of applications from prospective Participants,
 - decisions to suspend or terminate a Participant,
 - external communications related to FSAN.
- A motion for a decision by the Management Committee can be submitted by any Management Committee representative. Voting must be done in an FSAN Management Committee meeting (face-to-face or remote) or via online communications tools (e.g., email exploder lists). In case of using online communications tools, the voting period must be at least two calendar weeks.
 - Unless otherwise set forth in this Charter, a motion is adopted if a majority of the Members eligible to cast votes at the time the motion is submitted are in favor of the motion.
 - Motions regarding the following issues require that a super-majority of at least 75% of the Members eligible to cast votes at the time the motion is submitted are in favor of the motion for the motion to be adopted:
 - Amendments to this Charter;
 - removal of the FSAN Chair or FSAN Vice Chair;
 - decisions to suspend or terminate a Member.
 - In lieu of a formal vote for a motion, the Management Committee may (through the FSAN Chair) attempt to obtain a consensus among the Members eligible to vote on the motion. Such consensus must still be consistent with the majority and super-majority adoption requirements described herein.

6. Antitrust/Competition Law

Each Participant is committed to fostering competition in the development of new products, software and services, and the work of FSAN is intended to promote such competition. Each Participant further acknowledges that it may compete with the others in various lines of business and that it is therefore imperative that they and their representatives act in a manner which does not violate any applicable antitrust/competition laws or regulations or applicable orders. Accordingly, each Participant hereby assumes responsibility to provide appropriate legal counsel to its representatives regarding the importance of limiting the scope of their discussions to the topics that relate to the Purpose, whether or not such discussions take place during formal meetings, informal gatherings, or otherwise. Each Participant further acknowledges that it and each other Participants is free to develop competing technologies and to license its technology to any third parties, including without limitation, to enable competing

technologies and standards. Participants agree to be bound by the Antitrust/Competition Law Compliance Policy attached hereto as Exhibit A.

7. Withdrawal, Suspension and Termination

- 7.1. A Participant may voluntarily withdraw from FSAN by providing written notice thereof to the FSAN Management Committee, such withdrawal effective on the date of such notice.
- 7.2. A Participant shall automatically be terminated from FSAN upon the occurrence of: (a) the Participant being wound up, dissolved, ceasing to trade, becoming or being declared insolvent; (b) the Participant having an administrator or liquidator appointed in respect of all or any part of its undertaking or otherwise ceasing to exist; or (c) the Participant no longer meeting the eligibility criteria for their participation in FSAN.
- 7.3. The FSAN Management Committee shall be entitled to suspend or terminate any Participant on the grounds of misconduct, in relation either to FSAN or its members, or of conduct likely to prove prejudicial to the good standing of FSAN or to the attainment of its Purpose. A Participant whose suspension or expulsion is to be decided upon at a meeting of the FSAN Management Committee shall be entitled to not less than 7 calendar days' notice (excluding the days on which the notice is served or is deemed to be served and for which it is given) of that meeting, stating the case made against such Participant. Such Participant shall be entitled to attend and speak at that meeting at any time during which its participation is discussed but shall not be present during voting and shall not be entitled to vote. A motion to suspend or terminate a Member shall not be effective unless approved by at least 75% of the FSAN Management Committee representatives entitled to vote on such motion.

8. Intellectual Property Policy

The FSAN Intellectual Property Policy shall be as set forth in Exhibit B.

9. Amendments

Amendments to this Charter may be made by the Management Committee through a motion that is approved by at least 75% of the Management Committee representatives entitled to vote on such motion.

10. Other Provisions

- 10.1. For purposes of this Charter, two companies are Affiliates if one company controls, is controlled by, or is under common control with, the other company, either directly or through one or more subsidiaries, where control means the ability to control the decision-making of the company (such as through ownership of a majority of the voting interests).

Exhibit A

Antitrust/Competition Law Compliance Policy

FSAN is set up for the legitimate and pro-competitive Purpose set for in the Charter. However, FSAN meetings and discussions where information necessary for the Purpose is exchanged may give rise to antitrust/competition law risk. This Antitrust/Competition Law Compliance Policy seeks to ensure that the conduct of FSAN and its Participants is limited to the extent necessary for the Purpose and complies with competition law. Each individual Participant should consult their own counsel regarding antitrust/competition laws that may be applicable to their activities.

- The work carried on by FSAN must be indispensable to achieving the Purpose. Participants in FSAN should only collaborate when their collaboration is strictly necessary for achieving the Purpose and should only share information which again is strictly necessary for achieving the Purpose.
- As a general rule, Participants must independently of one another set their own individual commercial strategy and policy, including prices and terms and conditions of supply to customers, and must not:
 - agree, coordinate or reach any kind of understanding (formal or informal) with one another about their individual strategies; or
 - share, receive or disclose commercially sensitive information with one another unless indispensable for the Purpose and subject to prior check by the respective antitrust/competition compliance team of the Participants. Such information shall be disclosed only to individuals with a need to know for the Purpose who are all required to use the information only for the Purpose. See the DOs and DO NOTs table below.

DO	DO NOT
<p>Do Discuss:</p> <ul style="list-style-type: none"> • information that is in the public domain; • historical and/or aggregated data – as long as this does not include commercially sensitive information (see “do not” column); • non-confidential technical or scientific data; • Information which is necessary for achieving the purpose and has been approved by the antitrust/competition law compliance team of the Participants. 	<p>Do not discuss any commercially sensitive or non-public information without the approval of the antitrust/competition compliance team of the Participant.</p> <p>Commercially sensitive information includes, but is not limited to:</p> <ul style="list-style-type: none"> • wholesale or retail prices (in particular, future prices), device cost, pricing strategy, discounts, margins;

	<ul style="list-style-type: none"> • sales volumes, revenues, stock levels, market share, production capacity; • customer lists, individual suppliers, terms and conditions of supply, bid amounts / terms/ whether or not you will be responding to a particular tender; • product development, investment or marketing plans; • commercial strategy information e.g. geographic growth and business expansion or contraction plans. <p>This prohibition applies to both official FSAN sessions and FSAN-supported informal gatherings.</p>
Do seek agreement on the reference models and requirements.	<ul style="list-style-type: none"> • Do not agree to fix prices; • Do not agree to share markets, customers or opportunities; • Do not agree to boycott third parties. • Do not agree to constrain technologies or solutions. • Do not agree to prevent or discourage the development of or work on new competing technologies or solutions. • Do not agree to take action which may discourage or limit new competition or competitors
Do record any engagement between the parties in writing; Do agree on the meeting agendas in advance ; and do limit discussions to agenda topics; Do record and agree upon meeting minutes and actions.	Do not restrict access to information developed by FSAN with the purpose to impede competition.
Do provide each Participant with a copy of this policy, and do have a copy available for reference at all meetings.	<p>Do not exclude any industry players from being Participants for any reason other than violations of the Charter.</p> <p>Do not restrict Participants' dealings with non-Participants.</p> <p>Do not prevent or discourage the licensing of patent rights to third parties</p>

- The DOs and DO NOTs table provided herein is merely an example of acts that may raise antitrust/competition law issues. Each Participant must avoid any other activity that gives rise to antitrust/competition law violations, and is responsible for obtaining their own legal counsel on antitrust/competition law matters.

- FSAN has certain criteria for accepting new Participants. These criteria must be strictly complied with. Furthermore, there are no restrictions on any Participant dealing with any non-Participant.
- All Participants will be required to acknowledge their adherence to this policy and will ensure that their employees and representatives participating in FSAN activities respect this policy.

Exhibit B
Intellectual Property Policy

Each Participant grants a copyright license to any materials contributed by such Participant in order to allow deliberations and, if accepted, inclusion in a submission to an SDO.

By making a contribution to FSAN, a Participant agrees that, if a work item based on the contribution is submitted to an SDO, the Participant shall be subject to that SDO's patent policy. Alternatively, the Participant shall, prior to submission of the work item to the SDO, identify and request to withdraw the portions of the work item that it does not want to be subject to the SDO's patent policy.

There is no obligation of confidentiality in any materials submitted or discussed in FSAN. Materials submitted with confidentiality markings may be rejected to require removal of the marking.

Exhibit C**Example Application to become a Member/Consultant/Observer of
FSAN**

By executing this Application Form, we hereby apply for admission as a [Member / Consultant / Observer] of FSAN. We agree to be bound to the terms of the FSAN Charter (as it is currently and as it may be amended from time to time in the future according to its terms), including (but not limited to) the provisions set out in Exhibit A (Antitrust/Competition Law Compliance Policy) and Exhibit B (Intellectual Property Policy), both of which are attached to this Application Form for our information.

[Insert Applicant information here]

Execution Information of Applicant