



TIP Test & Validation Committee Charter

Version 2.0 - July 26, 2023 Approved by the Board of Directors

This charter (the “Charter”) sets forth the purpose, scope, responsibilities, duties, composition, and procedures of the Test and Validation Committee (“TVC”), an Administrative Committee of the Telecom Infra Project (“TIP”) as set forth in the TIP Bylaws.

PURPOSE

The TIP Test & Validation Committee ensures consistency and strategic evolution of all test and validation activities across all TIP Project Groups and TIP authorized Testing and Validation (“T&V”) activities.

Through its approval and oversight of T&V activities, the TVC is promoting the commercial readiness, and progress toward commercial readiness, of TIP Participant’s products/systems/services that have successfully completed T&V activities. The members of the TVC will represent the diversity of TIP participants.

SCOPE

The Scope of activities that the TVC will be responsible for includes the following:

- Ensuring consistency within Project Group requirements (including subgroups) regarding TIP T&V activities
- Ensuring cross-PG consistency of the T&V requirements developed by each Project Group
- Governing basic quality principles of TIP T&V activities
- Approving Project Group badge criteria to support both commercial readiness and listing on TIP Exchange
- Approving badge allocation for products listed on TIP Exchange
- Overseeing the activities, setting quality assurance and process requirements in the TIP Community Labs, Authorized third party labs, and field and lab trials
- Receive, review and respond to CL project status reports and any technical issues identified by a CL Host representative
- On a quarterly cadence, the TVC will provide a reporting dashboard of Test & Validation activities to the TIP Board of Directors
- Such other activities as may be approved by the TVC which are consistent with this Scope and the TVC’s Purpose

The TVC may create one or more task forces to accomplish tasks and activities within the

Purpose and Scope defined in this Charter¹. The TVC will define the specific scope, tasks, deliverables, meeting cadence, and timeline for each TVC task force. Each task force will be comprised of a subset of current TVC members and may include additional TIP participants on a case-by-case basis.

TVC, as requested by the TIP Board, may interact with other organizations or consortia having similar scope to TIP.

DUTIES and RESPONSIBILITIES

The following are the specific duties and responsibilities that will support the Purpose and Scope as noted below:

- Develop and maintain processes related to T&V activities across all project groups
- Develop, maintain and review criteria for lab environments
- Create and facilitate TVC task forces to deliver against strategic activities identified by the TVC Promote TIP T&V across the industry
- Oversee lab activities, including:
 - Review requests to open new TIP lab environments, and make recommendations to the TIP Board of Directors for final approval
 - Organize and lead meetings between Community Lab Hosts to enable knowledge sharing
 - Provide guidelines to coordinate how labs report their activities
 - Review and update the TIP Community Lab Policy, and other TIP policies relating to T&V activities, when deemed reasonable
 - Ensure compliance with the TIP Community Lab Policy, or other policies relating to the operation of a TIP-approved or associated lab.
 - Define technical and operational quality criteria for TIP community labs
 - Review existing Community Labs and third-party authorized labs on a regular basis, and make recommendations to the TIP Board of Directors for closures and/or re-purposing to align with TIP PG goals and mission; this includes the right to conduct lab audits
- Oversee T&V activities, including:
 - Review project intake requests
 - Review Test & Validation projects and ensure that there is alignment of Test & Validation activities across the ecosystem to reduce potential for fragmentation
 - Review Project Group Deliverables (including test plans, project exit reports, etc.) and provide guidance in terms of consistency of testing across Project Groups
 - Ensure compliance with TIP policies and procedures governing the conduct of testing and trials outside of TIP Community Labs, e.g. field trials and lab trials at authorized labs.
- Provide approval of allocation of TIP badges:
 - Review and approve badge allocation criteria set by the Project Group, and verify the alignment with TIP badge definitions

¹ Any TVC member, as well as TIP's Chief Engineer, may propose creation of a task force for consideration by the broader TVC membership.

- Review badging recommendations from the Project Group and approve for posting such badges in TIP Exchange
- Report T&V activities summary to the Technical Committee and TIP Board

TVC Participation & Participant Expectations

The TVC shall comprise at least six and up to thirteen individuals, including at least one representative of a Sponsor Participant. Each TVC member shall have one vote on all matters before the TVC.

TVC Membership Criteria:

- Employee of a TIP Participant in good standing
- Deep technical expertise in product test, validation, and certification technologies

Nominees for appointment to the TVC must be sponsored by a current TVC member or by a TIP Director. New members of the TVC may be nominated at any time, so long as each new member meets the membership criteria above and the maximum number of TVC members is not exceeded. The TIP Board of Directors approves all new members of the TVC, based on the recommendation of the then current TVC members. No TIP Participant may have more than one representative on the TVC at any one time.

A member of the TVC may appoint another individual, employed or affiliated with the same employer as the appointing TVC member, to act as an alternate in its place should the TVC member be unable to attend a TVC meeting. The alternate will have the same rights, privileges and obligations as the TVC member. A TVC member wishing to appoint an alternate must notify TIP's Chief Engineer at least 7 days, or as soon as is reasonably feasible, prior to the meeting(s) the alternate will attend. A person appointed as an alternate must also meet the Membership Criteria described in this Charter.

TVC Leadership:

The TIP Chief Engineer presides over meetings of the TVC. In the Chief Engineer's absence, the Chair shall preside over TVC meetings. The TIP Chief Engineer will notify the TVC Chair at least 1 week prior to a scheduled meeting, or if not feasible as soon as is possible, if they will be absent.

Resignation; Removal:

TVC members who are unable to fulfill the role of a TVC member shall inform the TIP Chief Engineer and resign from the TVC. TVC members will be deemed to have resigned their seat (1) after 3 consecutive, unexcused absences from scheduled TVC meetings in any calendar year; (2) if they are no longer employed by a TIP Participant; or (3) if their employer is no longer a TIP Participant. The TVC may, at any time upon consensus or if consensus cannot be reached by super-majority (greater than 75%), remove a TVC member for acting contrary to the purpose and scope of the TVC.

Communication with TIP Project Groups:

TIP's Chief Engineer, or its delegate, shall act as the liaison among the TVC, TC, and the PGs. The Chief Engineer, and such individuals the Chief Engineer shall designate, shall attend all

TVC meetings and maintain the records of TVC proceedings. For purposes of clarity, neither the Chief Engineer nor its delegate maintains a vote on matters before the TVC.

Decision-Making Process, Meeting Frequency and Reporting

- The TVC, and any TVC task force, meets at a self-arranged cadence, usually once a month and more often at the discretion of the TVC and/or TVC task force members.
- The TVC will formally review and approve or reject documents related to the scope and activities described above. Documents for review will have previously been vetted by the Project Group Chair(s), Chief Engineer and T&V PM.
- The TVC reports TIP's Test & Validation activities to the TIP Board of Directors at least quarterly.
- The TIP Chief Engineer, and in their absence the individual elected by the TVC as the Chief Engineer's alternate, facilitates TVC meetings, and is responsible at a minimum for publishing meeting agenda, materials for consideration, and recording/circulating TVC meeting minutes.
- Decisions are made by consensus of those TVC members present at a duly-scheduled meeting, with consensus meaning that there is no sustained objection to the action being considered. If consensus cannot be reached, decisions of the TVC shall be made by majority approval of all TVC members, except:
 - Approval of testing deliverables from the Project Groups and Test & Validation activities requires a supermajority (>75%) of those TVC members present in a duly-scheduled meeting where a quorum (at least 50% of all TVC members) is present; or
 - As otherwise set forth in this Charter.
- Voting may be performed in person during TVC meetings or via electronic voting, e.g. email or such other platform as may be available. Each TVC member has one vote in decisions made by the TVC.

Review of the Charter

The TVC may periodically conduct its own review of this Charter and recommend any changes to the TIP Board of Directors for consideration.
