

**SINHGAD TECHNICAL EDUCATION SOCIETY'S
SINHGAD INSTITUTE OF
TECHNOLOGY, LONAVALA
INSTITUTION'S INNOVATION COUNCIL (IIC)**

**TECHNICAL TEAM
CONSTITUTION
2026 – 2036**

**Standard Operating Procedures for
Infrastructure, Live-Streaming, and Digital
Sovereignty**

The Definitive Spoon-Feeding Manual for the Council's Backbone: A Comprehensive Deep-Dive into Hardware, Software, Asset Management, and Total Operational Security.

Custodians:
Tech Head & Co-Head
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1 ARTICLE I: FOUNDATIONAL MISSION AND SCOPE

1.1 The "Sovereign Guardian" Mandate

The Technical Team is the foundation upon which the entire Institution's Innovation Council (IIC) rests. Their mission is to ensure **Zero-Failure Operations** of the Council's physical and digital infrastructure. They are not merely "repair-men"; they are the Architects of the Tech Environment. This encompasses the health of the Innovation Lab, the Council's high-bandwidth streaming capabilities, and the seamless execution of technical logistics for national-level events.

1.2 The "Infrastructure-as-Identity" Rule

In the IIC, the state of our technology reflects the quality of our innovation. A malfunctioning mic, a flickering projector, or a slow WiFi connection is treated as a breach of institutional pride. The Technical Team must operate with the precision of an aerospace data-center operations unit.

2 ARTICLE II: DETAILED ROLES AND COMMAND HIERARCHY

2.1 The Tech Head (Chief Technology Officer)

- **Policy Architect:** Defines the standards for hardware procurement and software stacks across both campus chapters.
- **Technical Auditor:** Conducts monthly "Deep-Audits" of all IIC assets (Gears, WiFi, Servers, Power systems).
- **Strategic Oversight:** Leads the hierarchy and assigns members to specialized "Tech Squads" (AV, Network, Hardware).

2.2 The Tech Co-Head (Execution Lead)

- **Field Commander:** Directly manages event-day technical flows (Mics, PPTs, Live streams, Walkie-talkies).
- **Procurement Officer:** Tracks the "Requirement-to-Procurement" pipeline and verifies technical BOMs for R&D.
- **Maintenance Lead:** Ensures the Lab's lights, projector, and printer are in 100% working condition on a daily basis.

3 ARTICLE III: LAB INFRASTRUCTURE & ENVIRONMENT MANAGEMENT

3.1 Innovation Lab SOE (Standard Operating Environment)

The Technical Team must ensure the Innovation Lab is always "Ready for Combat."

1. **Light & Display Setup:** Projectors must be calibrated for color accuracy and lens-focus weekly. Lighting must be optimized for both research work and high-definition video recording (Collaboration with Multimedia).
2. **Connectivity (WiFi/LAN):** The Tech Team must maintain a dedicated high-speed VLAN for IIC. Monthly speed-tests and router resets are mandatory to ensure low-latency for R&D testing.
3. **Printing & 3D Fabrication:** The Tech Co-Head must ensure the 3D printer has sufficient filament (various materials) and the standard paper printer has ink/toner. Spool logs must be maintained to prevent waste and track prototype iterations.

4 ARTICLE IV: EVENT TECHNICAL MASTERY (LIVE & GROUND)

4.1 Live Streaming & OBS Management

For online/hybrid sessions, the Technical Team is the "Broadcasting Station."

- **OBS Scenes:** Pre-configuring professional transitions, overlays, and lower-thirds for all IIC YouTube/Zoom streams.
- **Online Session Management:** Handling "Admit" protocols, recording backups, and managing chat moderation for webinars.
- **Power Backups:** Ensuring the "Broadcast PC" is on an online UPS to prevent stream drops during power fluctuations.

4.2 On-Ground Audio-Visual (AV) Protocol

- **The "T-minus 4h" Sound Check:** Mics, speakers, and amplifiers must be tested with full gain 4 hours before any event.
- **Mic Battery Protocol:** Every wireless mic must have a fresh pair of batteries installed 30 minutes before start time, with a spare set kept at the AV desk.
- **PPT & Presentation Handling:** The "Tech Slide Squad" must take all presenters' PPTs, check for font compatibility/video links, and manage the slides using a wireless clicker.

5 ARTICLE V: ASSET LIFECYCLE & GEAR MANAGEMENT

5.1 The Procurement Flow

To ensure financial and technical integrity, every asset follows this path:

Need Identified → Spec Drafted → BOM Validation → Procurement → Asset Tagging

5.2 Inventory and Walkie-Talkie Protocol

- **Asset Logs:** Every piece of gear (Tripods, Mics, Drones, Walkie-talkies) must be logged with a unique serial ID.
- **The "Check-Out" System:** No member can take gear out of the lab without a digital entry in the "Asset Tracking Portal."
- **Walkie-Talkie Assignment:** During mega-events, walkie-talkies must be assigned to Heads/Board members with designated channel frequencies (e.g., Channel 1: Logistics, Channel 2: High Command).

6 ARTICLE VI: DIGITAL SECURITY & ACCESS CONTROL

6.1 Lab Access Sovereignty

The Lab is a restricted zone. The Technical Team manages the "Digital Gate."

- **Biometric Database:** Maintaining a digital database of every member authorized to enter/leave the lab.
- **Network Security:** Passwords for IIC WiFi are strictly internal. If a leak is suspected, the Tech Head must change the SSID/Password within 30 minutes.
- **Backup Management:** Ensuring that all technical code and documentation is backed up on the local server and cloud daily.

7 ARTICLE VII: CONSTANT LEARNING & TECH TRANSFER

7.1 Spoon-Feeding the "New-Gen" Technical Skills

The Tech Head must ensure the council stays at the cutting edge.

- **Software Installation Mandate:** The Tech Team is responsible for installing specialized software (AutoCAD, ROS 2, Adobe Suite) for members on IIC workstations.
- **Monthly Learning Sprints:** The Tech Head must teach volunteers a new skill every month (e.g., "Troubleshooting a mesh network," "Advanced OBS Plugins," or "3D Printer Calibration").

- **Demand Specifications:** When R&D needs new tech, the Technical Team must research and draft the "Specification Sheet" to ensure the right version is purchased.

8 ARTICLE VIII: MANDATORY RULES & ATTENDANCE PROTOCOLS

8.1 Technical Discipline

- **Compulsory Attendance:** Technical Team members are required to be present for every event preparation. Absence without a 48h notice results in a "Yellow Slip."
- **The "Busy" Rule:** If the Tech Team is overwhelmed with a major event (e.g., ISRO Round), the Tech Head can request the President to "Pause" routine lab maintenance to focus 100% on the mission.
- **Standby Duty:** During any high-level session, at least 2 Tech members must be on "Live Standby" near the AV rack—never leaving the post until the session concludes.

9 ARTICLE IX: STEWARDSHIP AND MULTI-CAMPUS LEGACY

9.1 Dual-Campus Tech-Sync

- **Standardization:** College A and College B must use the same "IT Standards" (Same streaming software, same backup formats).
- **The Tech Heritage HDD:** Every software setup file, OS image, and backup of previous event PPTs must be stored on a physical "Heritage HDD" for future leads.

10 ARTICLE X: REAL-WORLD SCENARIO MITIGATION

10.1 Scenario A: The "Projector Failure"

If the main projector fails during a faculty presentation:

- **Immediate Fix:** Tech member on standby switches to the "Backup Large Display" or "TV Screen" within 60 seconds.
- **Report:** Tech Co-Head files a "Failure Analysis Report" by EOD.

10.2 Scenario B: Audio Feedback Loop

If high-pitched feedback occurs during a Chief Guest's speech:

- **Action:** AV lead immediately cuts the gain on the specific channel and adjusts the EQ to eliminate the frequency spike.

- **Prevention:** Tech Team must conduct a "Spatial Audio Mapping" before the guests arrive to identify feedback "Dead Zones."

SIGNATORIES OF THE 2026 TECHNICAL CONSTITUTION

Tech Head (Architect)

Student President

Dean R&D (STES)