

I-STEM PRISM

Priority Research Infrastructure Service Matrix
National Service Assurance Framework





Prologue

India has made significant public investments in research infrastructure across central universities, IITs, IISERs, national laboratories, and autonomous institutions. While asset visibility has improved through digital platforms, predictable and accountable access to infrastructure remains uneven and institution-dependent.

I-STEM PRISM (Priority Research Infrastructure Service Matrix) is proposed as a national service assurance framework that converts publicly funded research infrastructure from static capital assets into measurable, time-bound public research services.

 A nationally standardised service classification system (A-D)	 Measurable Service Level Agreements (SLAs)	 A Fulfilment Reliability Index (FRI)
 Performance-linked visibility and incentive alignment	 Quarterly Dynamic Reclassification	 Institutional autonomy within a transparent accountability structure

PRISM does not interfere with academic autonomy. It standardizes **service reliability communication**.

About PRISM

I-STEM Priority Research Infrastructure Service Matrix

I-STEM PRISM (Priority Research Infrastructure Service Matrix) is a nationally structured service classification and access assurance framework developed by I-STEM to convert publicly funded research infrastructure into predictable, time-bound, and institutionally accountable access for external users.

PRISM is grounded in real operational conditions observed across Indian research institutions, including:

 Operator availability	 Machine uptime and health
 AMC / warranty and calibration cycles	 Safety and regulatory clearances
 Competing academic priorities	 Internal approval hierarchies

PRISM is not a discovery or visibility catalogue. It is an opt-in, commitment-based institutional service framework that communicates how reliably and within what timeframes access decisions can be made and honoured.

Objectives

The objectives are to:

- Provide clarity and confidence to users regarding access feasibility.
- Enable institutions to declare access readiness honestly and transparently.

Balance institutional autonomy with national-level service assurance.

Purpose

To establish a nationally consistent framework for communicating and measuring the reliability of access to publicly funded research infrastructure listed on I-STEM.

Scope

PRISM applies to:

- Opt-in institutions listing assets on I-STEM
- External user booking requests
- Decision and execution stages of infrastructure access

PRISM does not govern internal academic scheduling.

Measurement Architecture

PRISM classification is based on two measurable parameters:

Parameter 1: Decision Responsiveness (DR)

Measures how quickly an institution issues an Accept or Reject decision.

Definition:

Time taken from booking request submission to formal decision.

Metric:

Percentage of decisions issued within declared SLA timeline.

$$DR (\%) = \frac{\text{Number of Decisions Issued Within SLA}}{\text{Total Requests}} \times 100$$

This parameter measures responsiveness discipline.

Parameter 2: Fulfilment Reliability (FR)

Percentage of decisions issued within declared SLA timeline.

Definition:

Percentage of accepted bookings successfully delivered within committed timeline and scope.

$$FR (\%) = \frac{\text{Number of Successfully Executed Accepted Bookings}}{\text{Total Accepted Bookings}} \times 100$$

This parameter measures operational reliability.

Exclusions:

The following are excluded from FR calculation:

- User-initiated cancellations.
- Force majeure events officially declared.
- Pre-declared maintenance or calibration downtime.

Fulfilment Reliability Index (FRI)

Measures how quickly an institution issues an Accept or Reject decision.

$$FRI = (0.4 \times \text{Decision Responsiveness Score}) + (0.6 \times \text{Fulfilment Reliability})$$

Weighting rationale:

Execution reliability is prioritized over decision speed.

FRI is calculated on a rolling six-month basis.

PRISM Service Categories

Assets are dynamically classified based on FRI and decision SLA compliance.



Category A – Assured Access Infrastructure

Decision Timeline: ≤ 3 working days
FRI Threshold: ≥ 95%

High operational stability, calibrated equipment, trained operator availability, and consistent fulfilment performance.



Category B – Conditional Access Infrastructure

Decision Timeline: ≤ 7 working days
FRI Threshold: 85–94%

Operationally stable with declared constraints or variable scheduling conditions.



Category C – Limited-Assurance Infrastructure

Decision Timeline: ≤ 10 working days
FRI Threshold: 75–84%

Periodic availability, shared academic priority, or operational variability.



Category D – Indicative Infrastructure

Decision Timeline: ≤ 14 working days
FRI Threshold: < 75%

Visibility provided without service assurance confidence.

The category communicates expected service reliability – not entitlement.

Accept / Reject Protocol

Every booking request must receive one of the following outcomes within the declared timeline:

ACCEPTED

REJECTED

SEEKING CLARIFICATION

No silent pendency permitted.

Accepted bookings must include:

- Tentative execution schedule
- Cost confirmation
- Sample compatibility confirmation

Rejected bookings must include a reason code for analytics and transparency.

Governance Framework

PRISM operates under the I-STEM Service Governance Cell.

Key Features:



Data-driven automated FRI calculation



Quarterly reclassification



Institution notification prior to category update



Transparent dashboard display



15-day review/appeal window

Self-declared category without metric compliance is not permitted.

Quarterly Dynamic Reclassification

Every quarter:



Decision Responsiveness Score calculated



Fulfilment Reliability calculated



FRI computed



Category assigned algorithmically

Category upgrades require sustained performance.

Downgrades occur upon threshold breach.

Institutional Responsibilities

Participating institutions must:

- Declare realistic SLA timelines
- Maintain operator and uptime records
- Log all booking decisions digitally
- Declare downtime proactively
- Ensure transparent execution records

PRISM respects autonomy but requires measurable discipline.

Strategic Alignment

PRISM aligns with:



Public capital efficiency mandates



Outcome-based funding frameworks



Ease-of-Doing-Research reforms



Transparent infrastructure governance



National research competitiveness objectives

Core Principle

PRISM measures reliability of service delivery – not institutional prestige.

It enhances trust without centralising control.



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