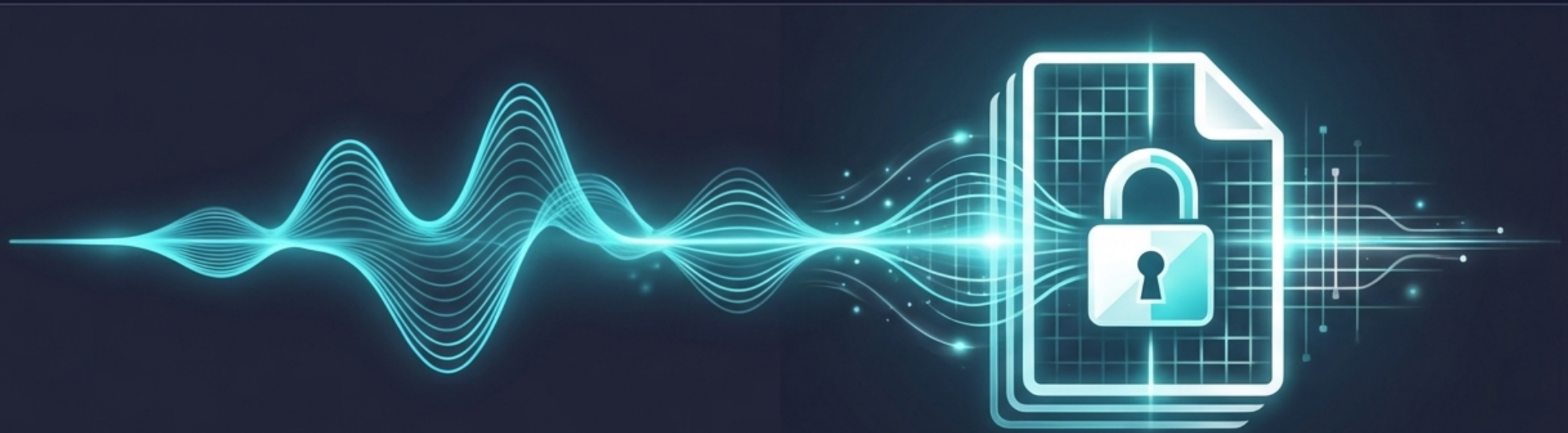


VoxVision: Frictionless Autonomy for Visually Impaired Students

The world’s first integrated voice-to-secure-PDF exam system powered by multilingual edge AI.

The Human Scribe Bottleneck Fractures Academic Potential

Scale of the Crisis

2.2B
People with vision impairment globally

40M+
Vision-impaired in India alone

vision-impaired individuals in India alone (the largest VI student population globally) out of 2.2B globally.

The Scribe Failure

70%+

of students report scribe-related issues, ranging from misinterpretation of answers to severe privacy and dignity concerns.

The Cost Burden

Rs. 500-2000

per-exam cost burden placed on families to secure a human scribe, alongside a critical shortage of trained personnel.

Redefining Accessibility: Why the Status Quo Fails at Scale

	Human Scribes	Braille Papers	Special Assistive Tech	VoxVision
Autonomy	✗ Fail - Dependent	✓ Pass	✓ Pass	✓ Pass - Full independence
Scalability	✗ Fail - Limited supply	✗ Fail - Not all subjects	✗ Fail - Hard to deploy	✓ Pass - Low-cost hardware
Cost-Efficiency	✗ Fail - High recurring	✗ Fail - Expensive printing	✗ Fail - High Capex	✓ Pass - One-time device cost
Multilingual	✓ Pass - Varies	✗ Fail - Specialized skills	✗ Fail - 90%+ English/Hindi	✓ Pass - 15+ Indian languages

The VoxVision Paradigm: Integrated Hardware and Software

The Device (Hardware)

- Minimal Buttons for visually impaired users
- Offline-First local storage (no internet dependency)
- Low-cost hardware.

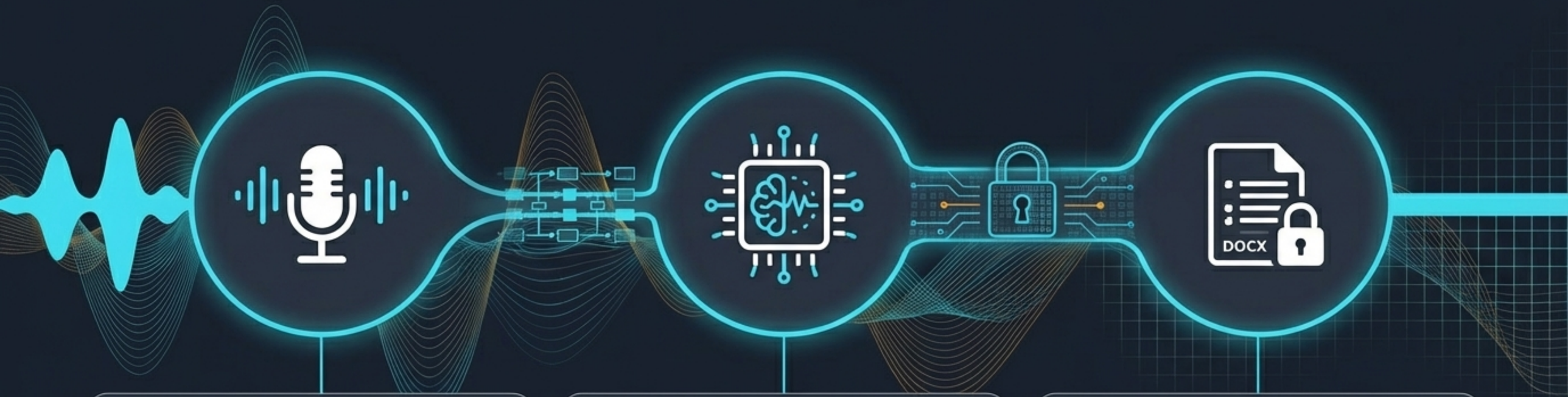
The Examiner Dashboard (Software)

- Secure Web Dashboard for Examiner Access
- Secure Web Dashboard for Examiner Access
- Automated Question-Answer Mapping
- Verifiable Audit Trails

Students speak their answers naturally; the system transcribes, structures, and encrypts them into a secure digital answer sheet.

VoxVision
Voice-to-Secure-PDF Exam System

Soundwaves to Structure: The Frictionless Workflow



Step 1: Voice Input (Speak)

Student speaks naturally. No typing or writing required. Real-time audio capture.

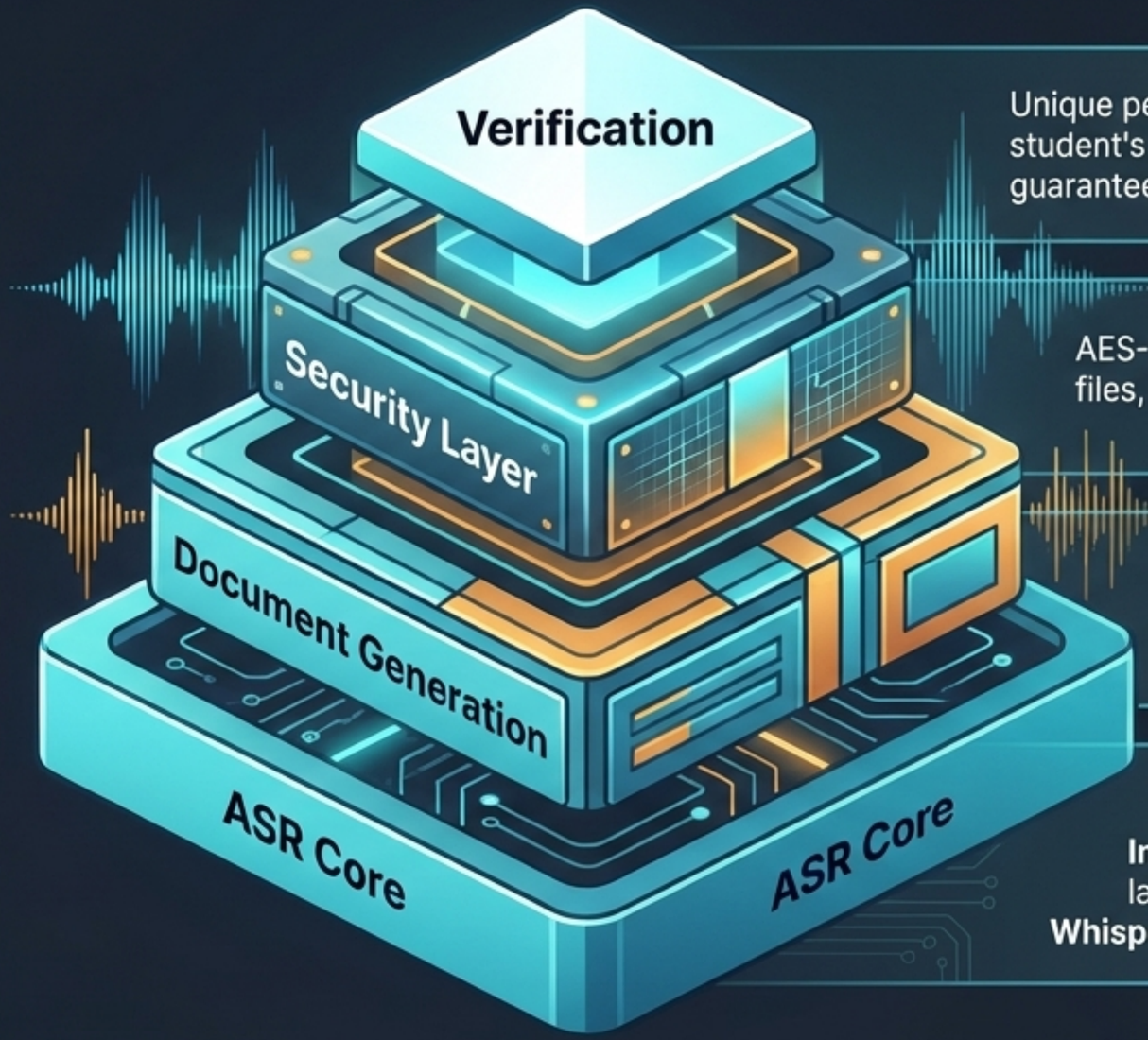
Step 2: AI Processing (Transcribe)

AI language detection kicks in. High-accuracy speech-to-text transcription translates the spoken word into raw text.

Step 3: Secure Verified Output (Structure)

Answers are automatically mapped to correct questions, formatted into a clean DOCX/PDF, and encrypted for examiner evaluation.

The Technological Moat: Verifiable, Encrypted, and Edge-Ready



Unique per-sheet QR Codes encoding the student's Roll Number and Session ID to guarantee document integrity.

AES-256 encryption applied to audio files, transcripts, and final documents.

Structured DOCX with automated question-to-answer mapping.

IndicWhisper (ai4bharat) & **IndicConformer** for primary Indian language processing, with **OpenAI Whisper (tiny)** as a non-Indian fallback.

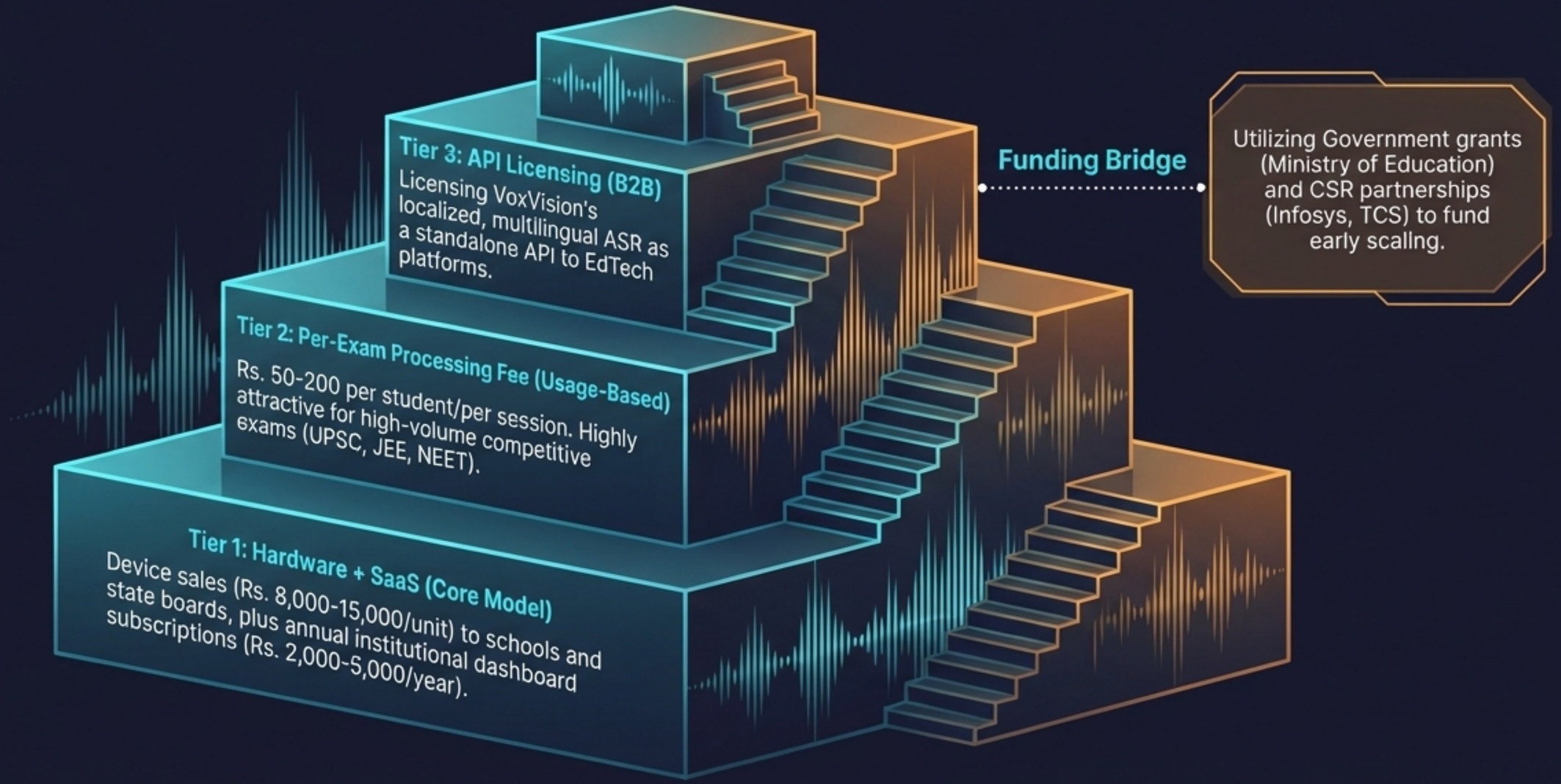
The Multilingual Advantage: Capturing the 90% Accessibility Gap

Existing assistive tech works only in English/Hindi. VoxVision supports **15+ Indian regional languages.**

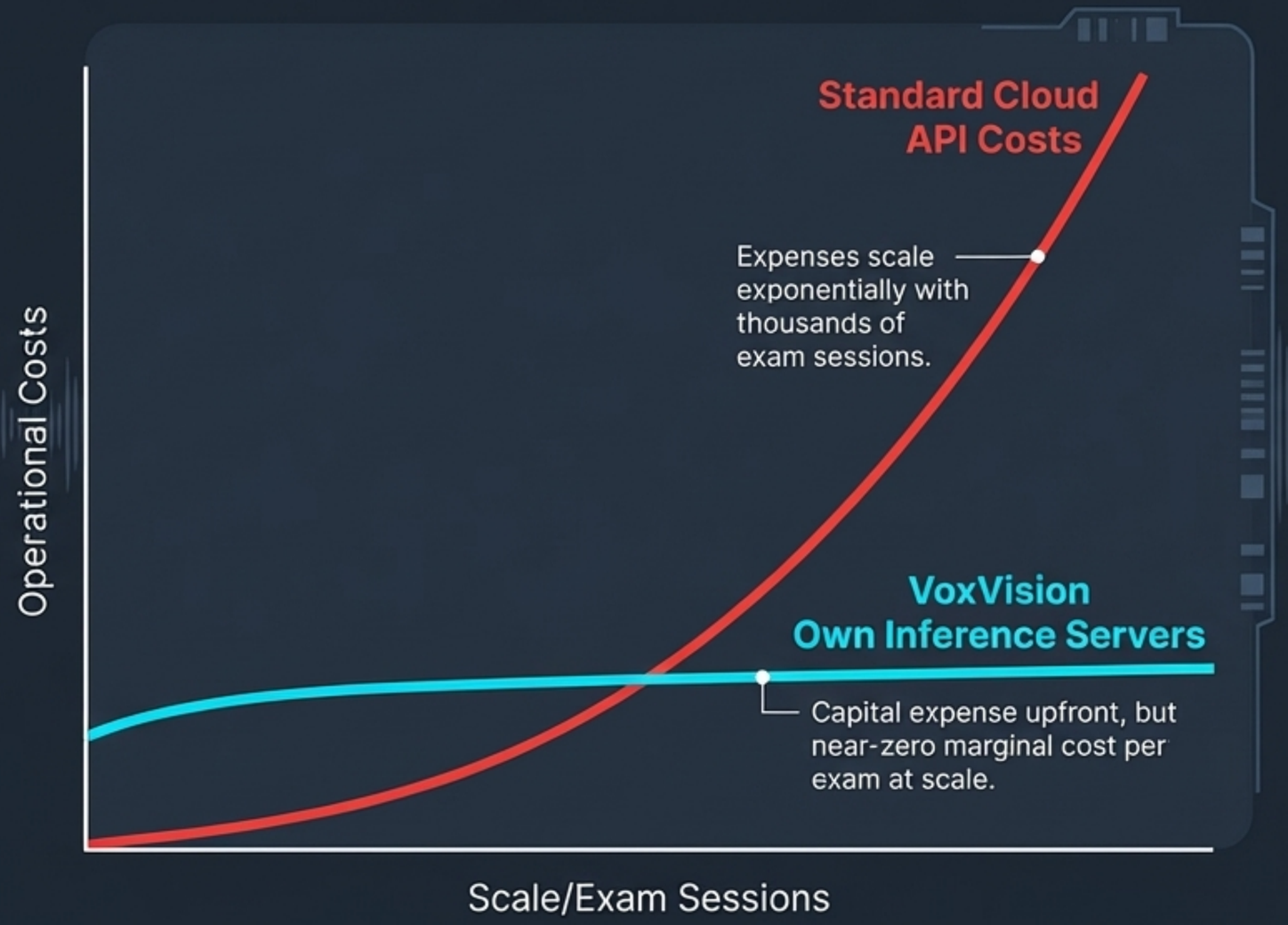
- Hindi: **60M+** students (Devanagari)
- Bengali: **25M+** students (Bengali)
- Tamil: **18M+** students (Tamil) தமிழ்
- Telugu: **16M+** students (Telugu) తెలుగు
- Marathi: **13M+** students (Devanagari) मराठी

VoxVision ensures that linguistic background never dictates a student's right to an accessible assessment.

Scalable Economics: A Multi-Tiered Revenue Flywheel



The Strategic Edge: Architecting for Zero Marginal Cost



Strategic Points

1. Transition from per-call cloud APIs to proprietary hosted inference.
2. Enables subsidized rates for NGOs and government deployments while maintaining strong margins.
3. Paves the way for Purely Offline Mode running entirely on-device (Raspberry Pi/Jetson Nano) for rural, low-bandwidth Indian markets.

Beyond Education: Reusing the Multilingual Core

Competitive & Government Exams

Digitizing scribe provision for millions taking UPSC, SSC, and State Board exams. Enforces compliance with the Rights of Persons with Disabilities Act 2016.

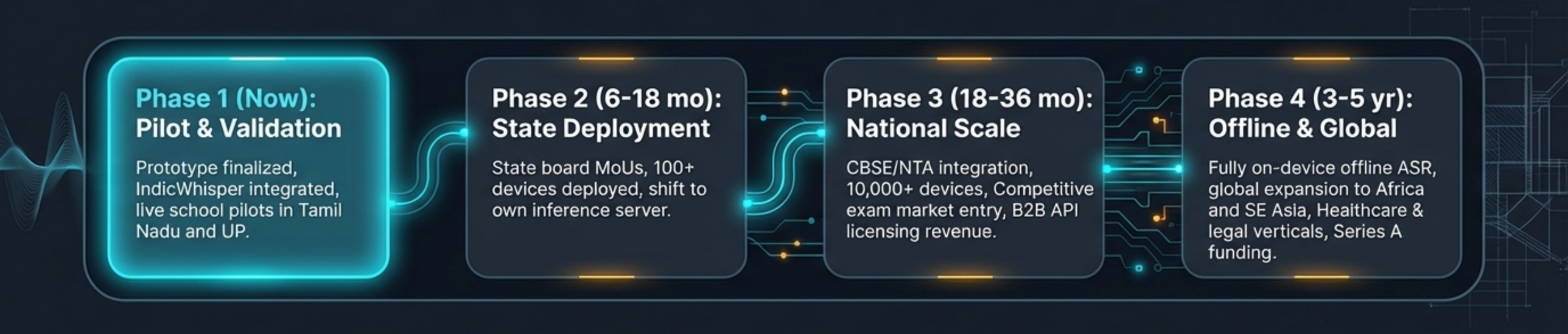
Skill Development

Partnering with NSDC and PMKVY for voice-based vocational training assessments for differently-abled trainees.

Enterprise DEI & Recruitment

Creating a SaaS-based accessible testing platform for corporate HR assessments, ensuring equitable recruitment for visually/motor-impaired candidates.

The Master Plan: From Local Pilots to Global Scale



“Every student deserves independence. VoxVision replaces scribe dependency with AI-powered voice technology — giving visually impaired students control over their own exams, dignity in assessment, and equal access to education.”