# ODiSI (OSAAT Digital Infrastructure School Initiative)

OSAAT
ONE SCHOOL AT A TIME
*A Safe & Strong School for Every Child*

**A sustainable digital initiative for rural primary education**

# Problem Statement

- Out of a population of 1.3 billion, India resides in its villages. 120 million children attend government schools, mostly in rural and semi urban regions. Access to education is limited due to poor infrastructure, inadequate teacher training, and a lack of improvements in teaching methods; especially digital learning.
- Digital learning tools and technologies have not reached the far corners of a vast majority of primary school children, where learning can be accelerated.
- OSAAT (One School at a Time) seeks to solve this challenge with it's ODiSI program.

# OSAAT: One School at a Time

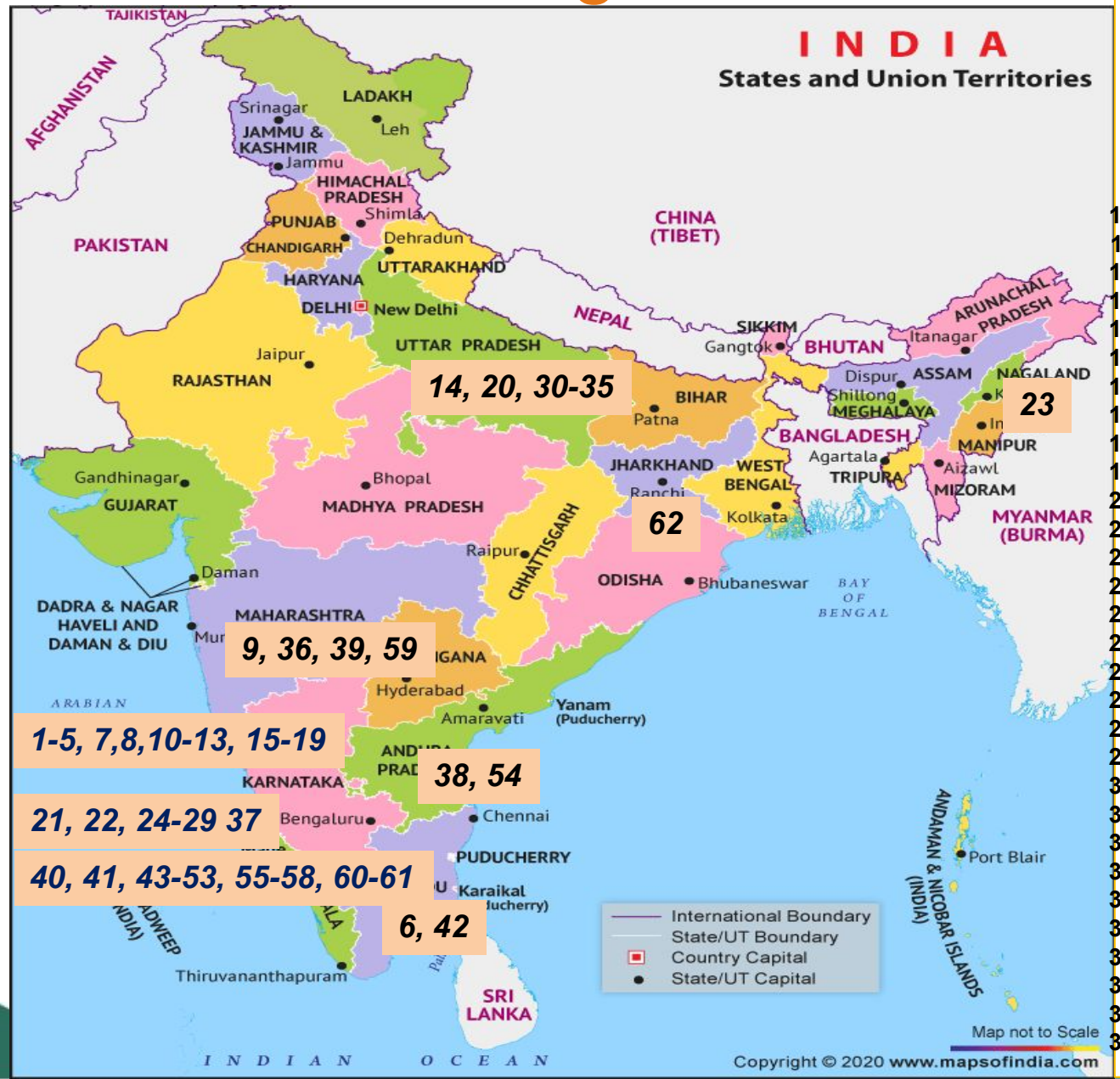
## MISSION:

- Rebuild Infrastructure of Neglected Schools in Rural India to Provide a Safe Classroom Environment for Children

- Over the past 18 years, OSAAT has diligently set out to rebuild much needed school infrastructure and is now expanding into building digital learning for children in rural schools.

- The digital learning program named ODiSI brings together hardware, software vendors and a systems integrator under the OSAAT umbrella, managed and supervised by OSAAT.

# Completed 50 Schools & Schools in Progress




**Completed Schools**

1. Bajegoli, Karkala, KA
2. Bannerghatta, KA
3. Bhadravathi, KA
4. Nazarabad, Mysore, KA
5. Haliyal, KA
6. Thandalam, TN
7. Dharwad, KA
8. Muttagi, Bijapur, KA
9. Ravalagundwadi, MH
10. Tarikere, KA
11. Yashavanthapura, Malur, KA
12. Dharwad, KA
13. Chennarayapatna, KA
14. Ballia, UP
15. Kottalagi, Bijapur, KA
16. Cholenahalli, Mysore, KA
17. Doddakallahalli, Malur, KA
18. Neelakanta Agrahara, Malur
19. Amruthapura, Chitradurga
20. Gaini, UP
21. Gurupura, Mysore, KA
22. Nagavalli, Chamarajanagar, KA
23. Aben, Manipur
24. Rampura, Nanjanagud, KA
25. Kattemalalavadi, Hunsur, KA
26. Alambadi, Hanur, KA
27. Benkipura, Hunsur, KA
28. Tungabhadra, Raichur, KA
29. Chinnikatti, Haveri, KA
30. Lehni-II,Pr, Khushinagar, UP
31. Chakhani, Khushinagar, UP,
32. Jhajhawa, Kushinagar, UP
33. Chilwan tola, Khushingar, UP
34. Chilwan, Khushinagar, UP
35. Lehni-II U Pr, Khushinagar, UP
36. Morabagai, Jath, MH
37. Malur, Kolar, KA
38. Peddathumbalam, Kurnool, AP
39. Ravalgundwadi, Jath, MH

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**Completed Schools (contd…)**

40. Bai-aregoppa, Haveri KA
41. Surahonne, Davanagere, KA
42. Komarapalayam, TN
43. Mukanahalli, Hunsur, KA
44. N Devarahalli, Challakere, KA
45. Amruthur, Kunigal, KA
46. Gajanur, Shivamogga, KA
47. OB Chudahalli, Bengaluru, KA
48. Musaguppi, Belagavi, KA
49. Rajakatti, Belagavi, KA
50. Hubbarawadi, Belagavi, KA

## In Progress

51. Awaragola, Belagavi, KA
52. Katrala, Kagawad, KA
53. Mayamudi, Kodagu, KA
54. Karakambadi, Chittoor, AP
55. Melavanki, Gokak, KA
56. Taralakatti, Koppala, KA
57. Chikkahunsur, Hunsur, KA
58. Keravadi, Haveri, KA
59. Walsang, Sangli, MH
60. Chikkakunthur, Kolar, KA
61. Arabagatte, Davanagere, KA
62. Khukradih, E.Singhbhum, JH

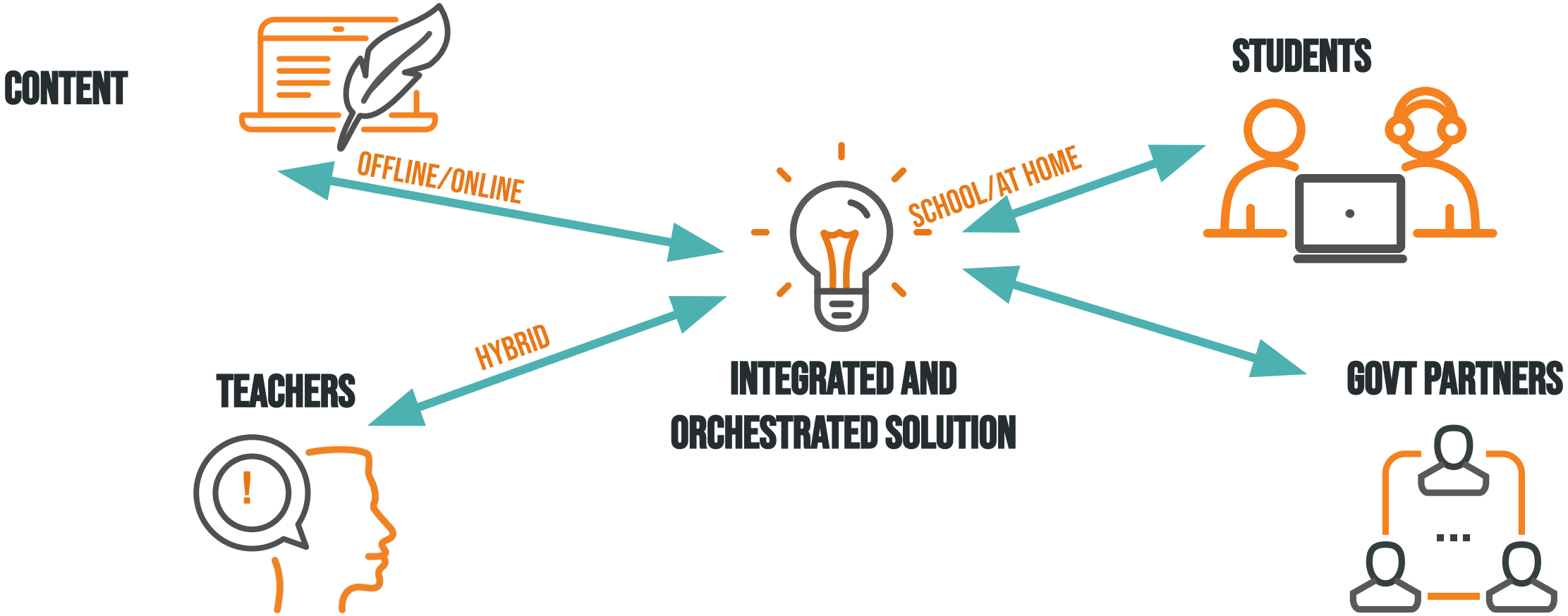
Schools in Karnataka
Schools in other states

# ODiSI: Objectives

- Design, implement and execute a digital platform for learning, making contemporary education within reach of rural children
- Address post COVID 19 pandemic challenges related to delivering public education to rural children
- Create and support a digital infrastructure highway for delivery of best-of-world content and pedagogy.

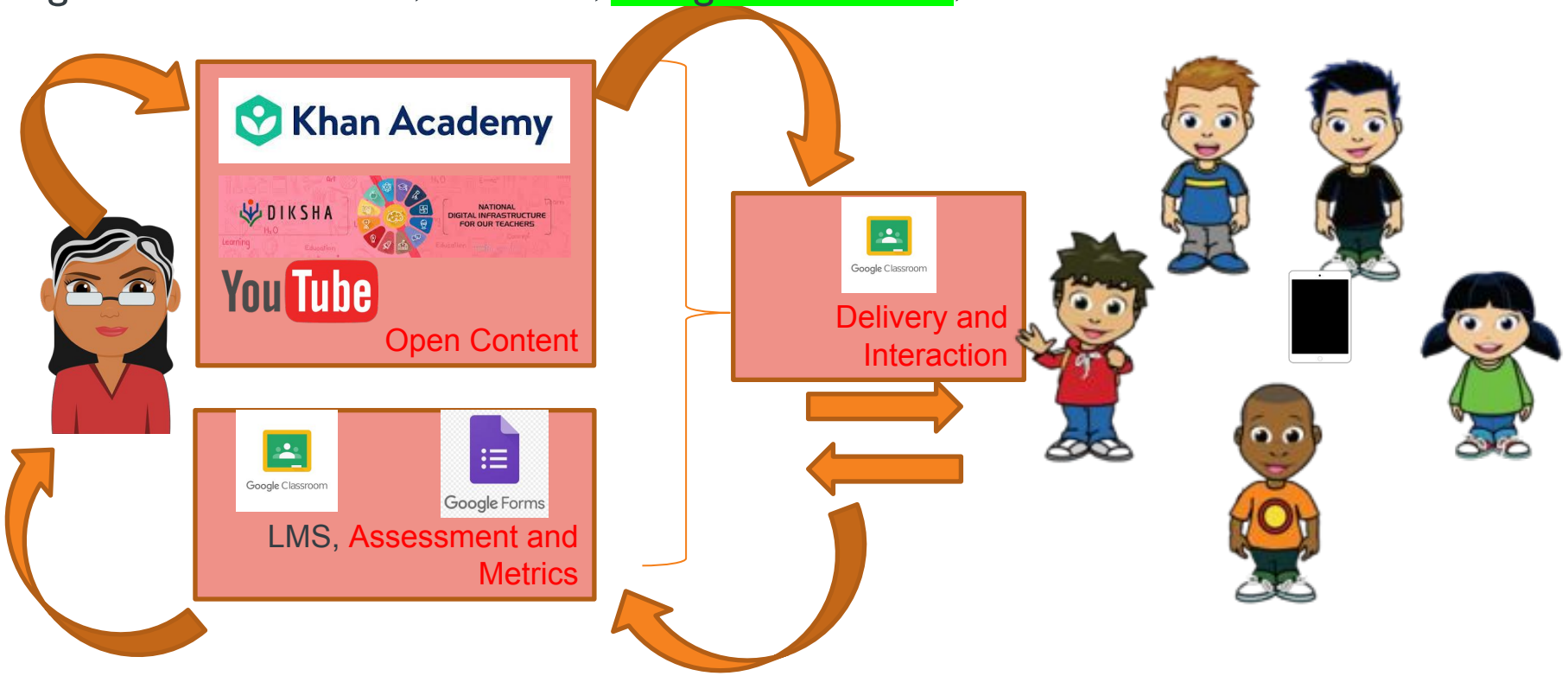
# Digital School Infrastructure

## Core Platform Architecture (Integrated solution)



# ODiSI - Components

- Tablets for children, Laptops for Teachers, TV Display in the class
- Hard-Configured with DIKSHA, YouTube, Google Classroom, Gsuite for Edu.



# ODiSI

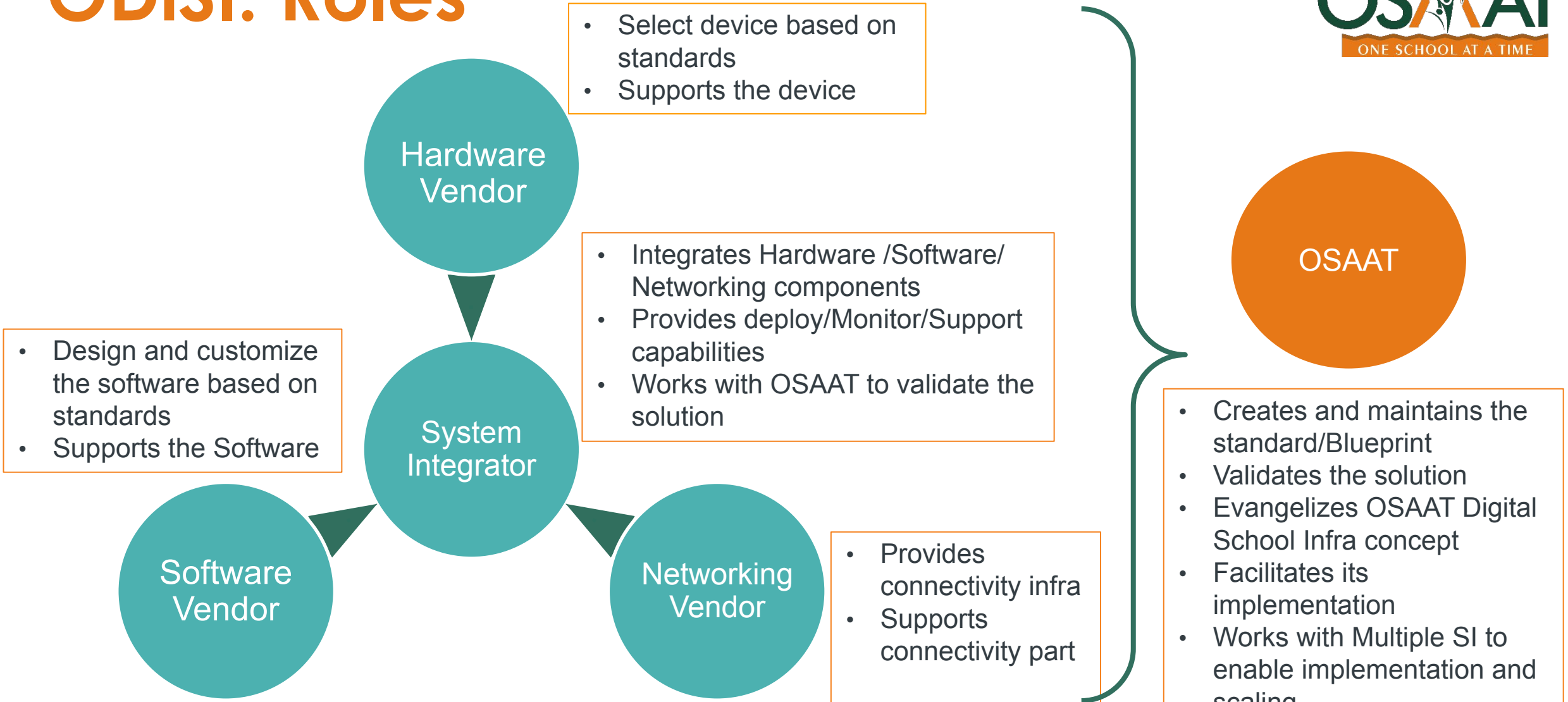
## HARDWARE

- Digital Tablets (1 tablet – 4/5 Students)
- Teacher Laptops
- Smart TVs
- 4G dongles for connectivity
- Google Classroom setup (domain for cluster, user ids for teachers, students)

## IMPLEMENTATION METHODS

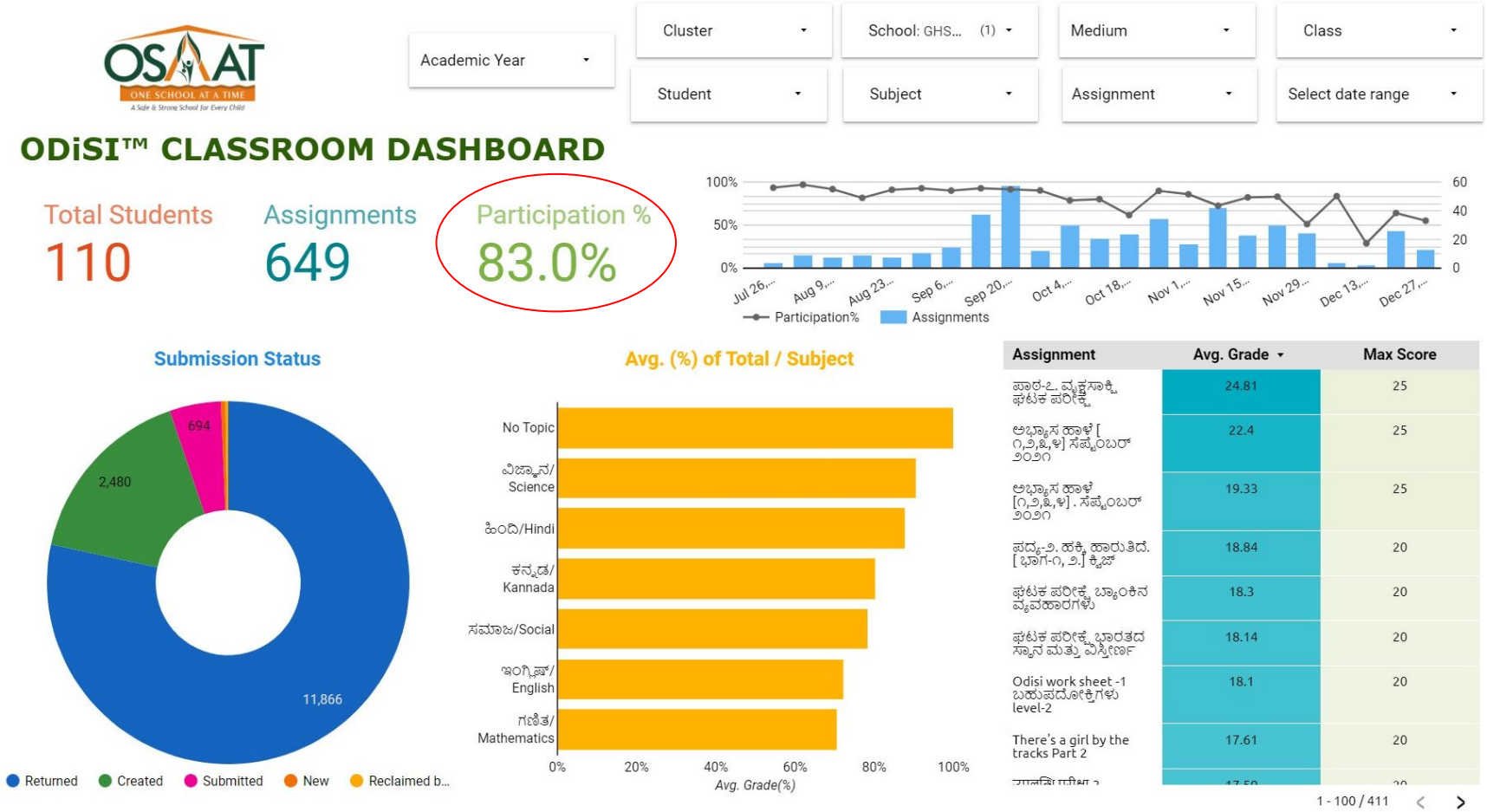
- Screening schools, risk assessment,, requirements tailoring of selected schools.
- ODiSI Deployment in select schools (cluster)
- Teacher training workshop on how to use ODiSI
- Student training workshop
- Bi-weekly review, feedback, mentoring assistance to teachers
- On-site weekly visits by IT coordinator to facilitate infrastructure usage

# ODiSI: Roles


Hardware Vendor
Select device based on standards
Supports the device
System Integrator
Integrates Hardware /Software/ Networking components
Provides deploy/Monitor/Support capabilities
Works with OSAAT to validate the solution
Design and customize the software based on standards
Supports the Software
Software Vendor
Networking Vendor
Provides connectivity infra
Supports connectivity part
OSAAT
Creates and maintains the standard/Blueprint
Validates the solution
Evangelizes OSAAT Digital School Infra concept
Facilitates its implementation
Works with Multiple SI to enable implementation and scaling

# Online Dashboard

## (Qualitative Metrics, Outcome Analysis)

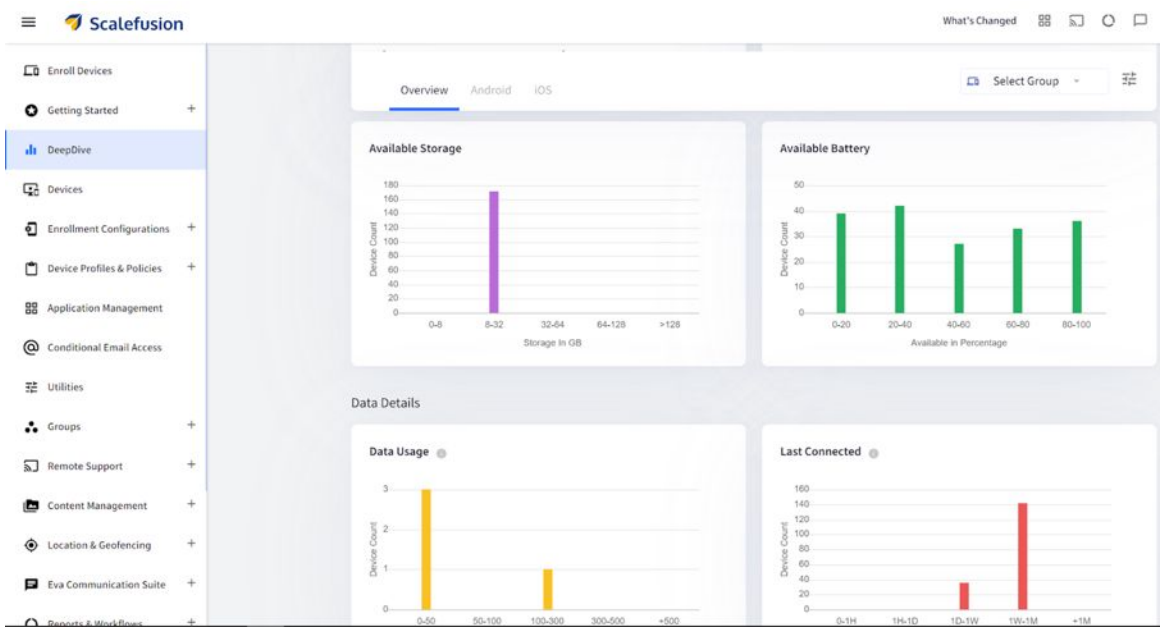


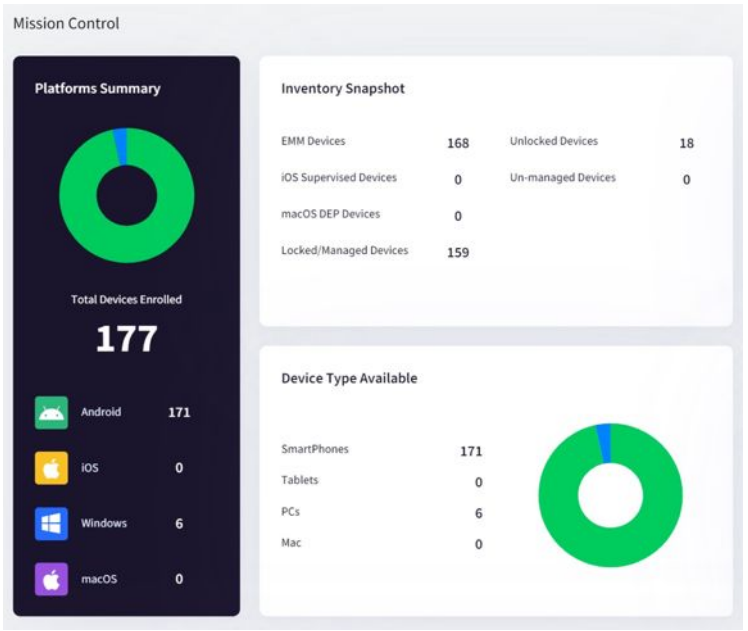

## CUSTOM ODISI DASHBOARD

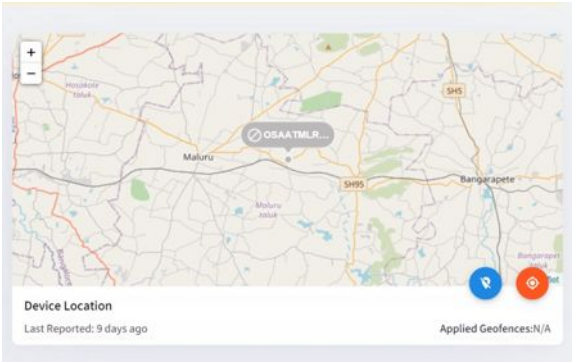
- Provides real time information on functions and usage to educators, and policy makers.
- Allows for course corrections and customization for each school.

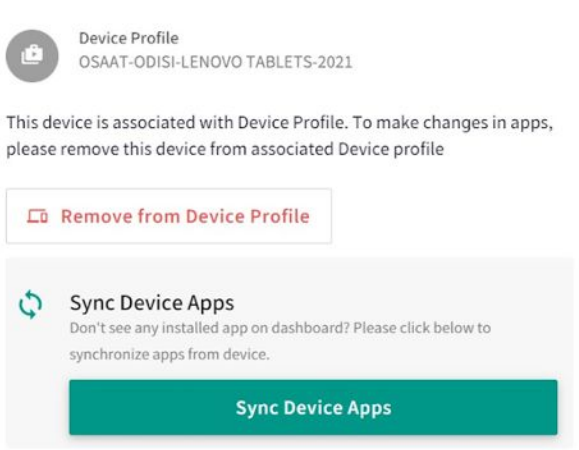
KPI is the percentage of participation by students and teachers

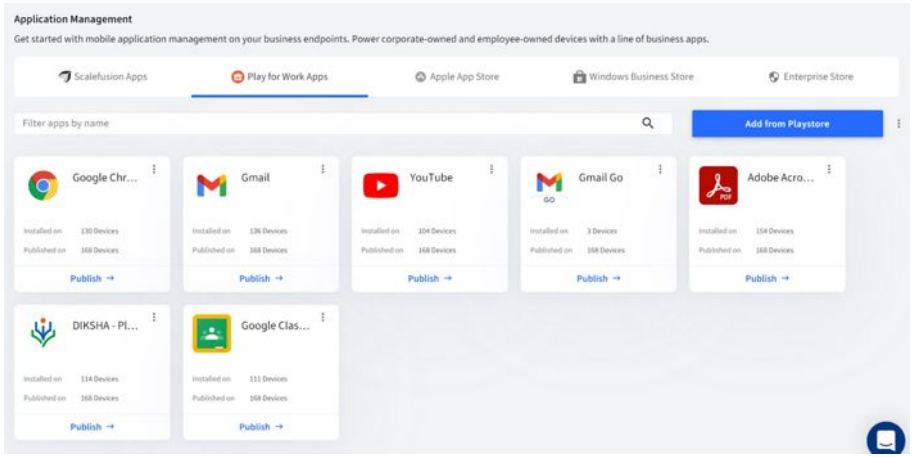
# Device Telemetry and Management
## (Security, Support and Maintenance)





# Monitoring and Evaluation

- Aligned with NDEAR (National Digital Education Architecture principles of NEP)
- Baseline performance of existing schools measured before intervention
- Progress updates from week 1 tabulated on dashboards
- Rewards and recognition program to keep students and teachers motivated
- Centralized dashboard to collect data on Google Cloud Platform
- Reassess learning outcomes at 6 month and 12 month milestones
- Mobile device management for lifecycle management and internet security
- Technical support and maintenance of all systems, through onesie and online support / help desk

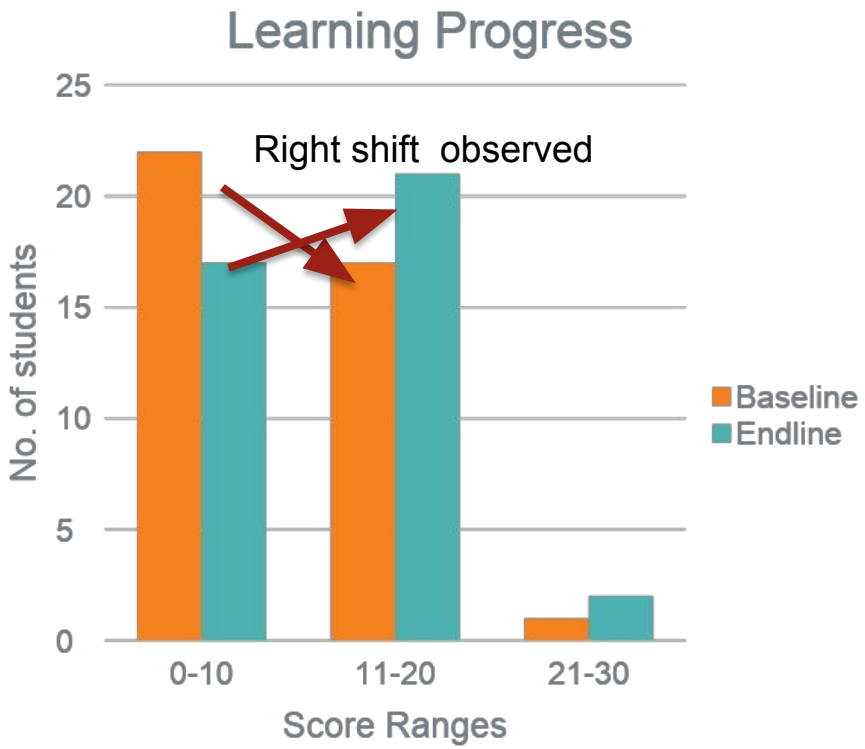
# Proof of Concept

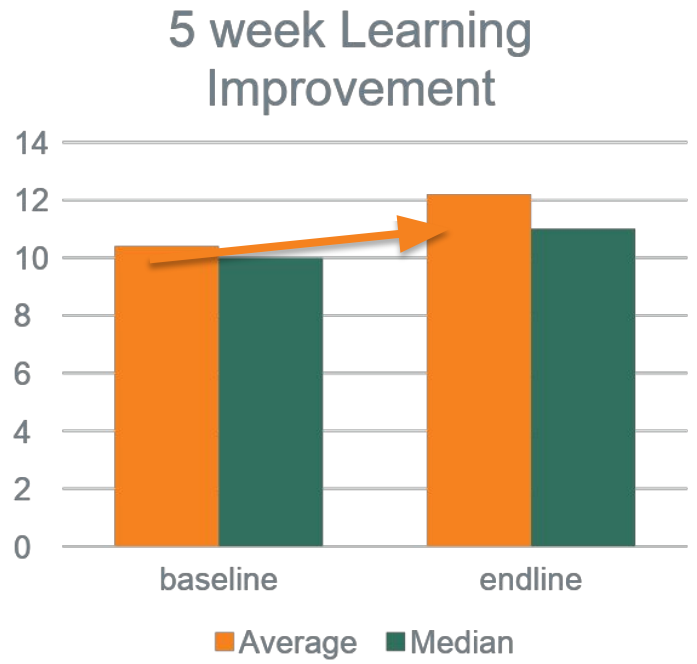
**Details of first successful OdisI project:**

- PoC successfully running in **12 rural schools** – Malur and Hunsur Taluks of Karnataka
- **1500 students** impacted in 12 rural schools
- In a sample baseline, **science, math, english performance improved by 20% within 5 weeks**
- Malur Girls using ODiSI **ranked second amongst 250 schools** across Asia in a third party Mathematics Application trial.

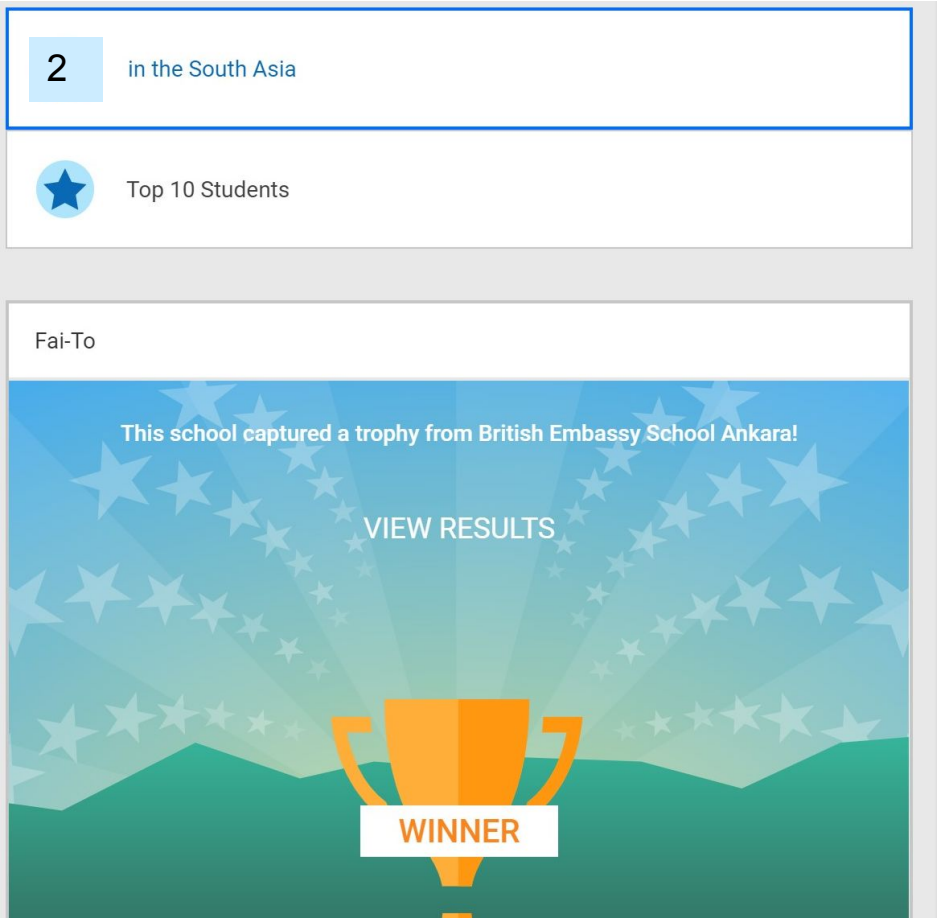
# ODiSI : Qualitative Impact Analysis

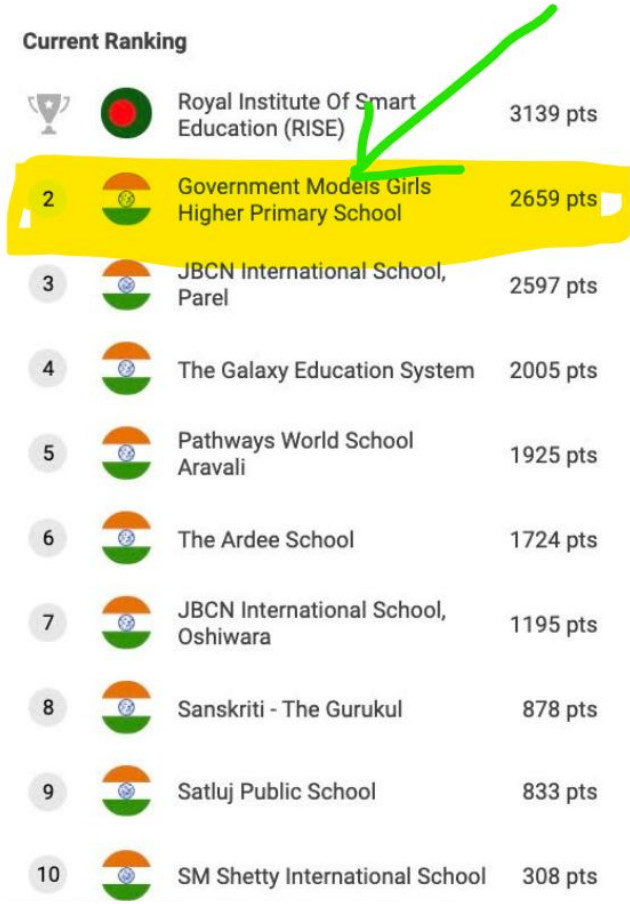
- Baseline and Endline online test covered topics in Science and Mathematics
- Progress was measured 5 weeks apart.
- This is just a validation of the infrastructure for measuring outcome



# Malur & MangaHigh Achievements




**MangaHigh (Westermann UK),** International Mathematics gaming and online learning platform tested 7500+ private schools in 50 countries.

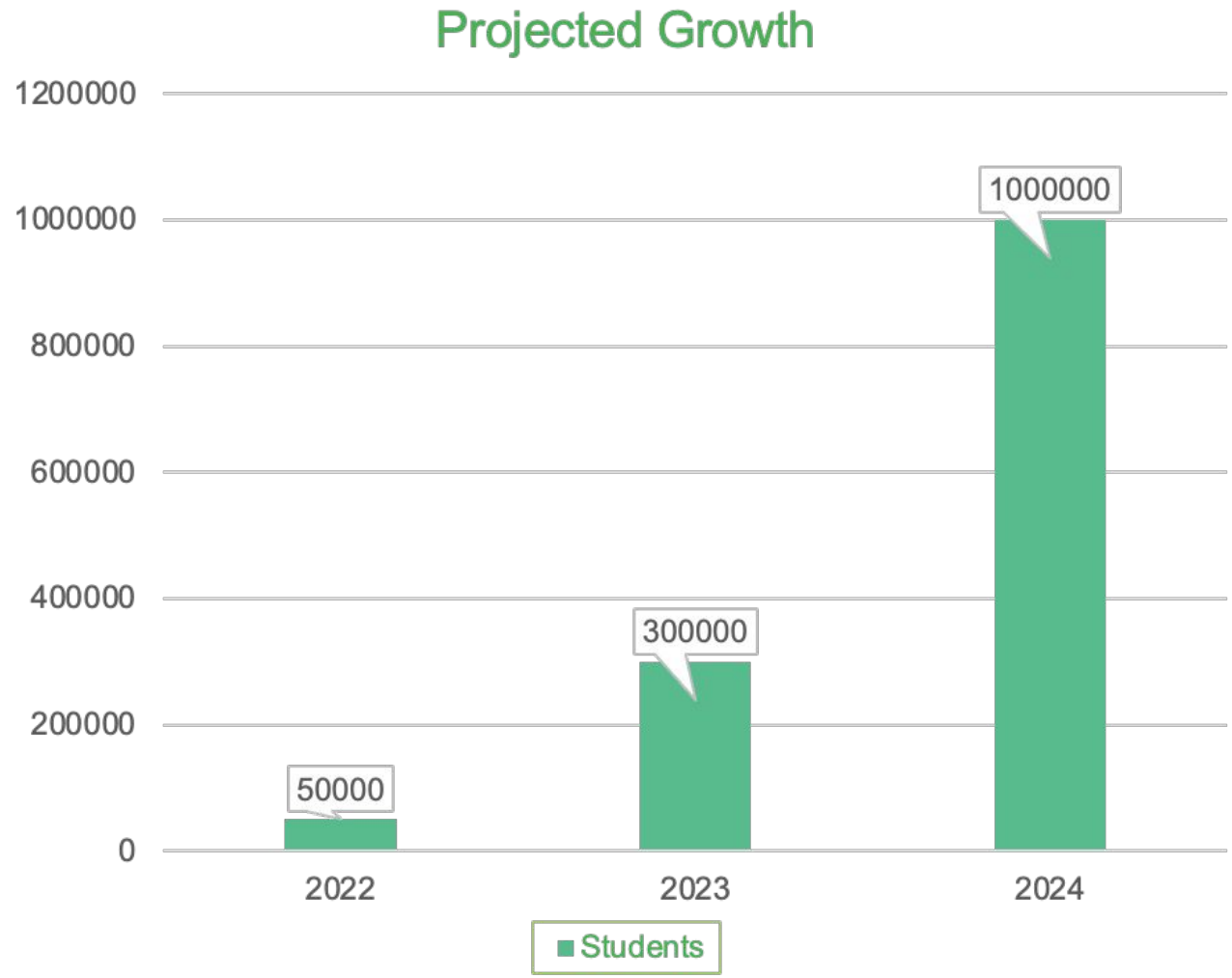
**Malur School** ranked 2nd among 250 participating schools. ODiSi's key foundational role has proven impact and uncovered enormous learning capabilities in rural India.

# Collaboration with State Governments

Karnataka Education Minister Shri Suresh Kumar recognized and offered OSAAT a partnership on all its programs (construction as well as ODiSI).

# Vision and Potential

- A cluster of schools comprises of minimum 10 schools in a taluk
- 10 clusters in 2022 with 50 schools each
- 20 clusters in multiple States in 2023
- 1,000 clusters in 2024
- 10000 schools at end of 3rd year
- 1 million students covered by the ODiSI program by 2024
- Recurring cost per student per year Rs 4000
- Govt. funding from year 2 could be 50% of program costs



# Proposal for a Taluk in South Karnataka

Per Year/Per Child Cost:

**Rs 4000**

* Cost is inclusive of Capital expense, Operational Expense, Training, System Integration services, Management, Delivery & Support.

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1 school with 100 students = Rs 4Lakhs(region and cluster pre-selected by OSAAT to meet minimums)

1 school  with 200 students = Rs 8 Lakhs (region and cluster pre-selected by OSAAT)

1 cluster: A 10 school cluster with approximately 100 Students per school (average) = Rs 40 Lakhs per year.  Minimum of 1 cluster with a 3 year commitment

*Minimum of 1 cluster with 10 schools is required to kick off the project in a particular region*

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# Back up

# ODiSI: History

For the past 18 years, OSAAT (One School at a Time) is thriving as the leading and possibly only NGO in India dedicated to the rebuilding and expansion of government schools in India. The presence has been key to understanding and addressing peripheral issues that impede children's education in rural India.

With the first pandemic wave, school children experienced the maximum disruption. Urban schools recovered in ad-hoc manner, however rural schools came to a grinding halt.

Families in disarray, already meager means of income started dwindling and children became the obvious means of reducing the burden. Boys were being pulled back to child labor and Girl students in rural schools started getting married off.

This prompted OSAAT team to act and design a longer term solution for equitable education access

ODiSI program initiated with lots of brainstorming of ideas and support by OSAAT leadership team.

ODiSI PoC started in August of 2020.

# Architecture

Dashboard

android

Mobile Device Management

App Lock

Identity Mgmt

Student Tablet

Teacher Laptop

Google Classroom

Cloud SQL

Cloud Run/ Function

Big Query

Google Cloud Platform


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# Driving efficiencies

A transparent, near-real time **dashboard** provides weekly progress on how ODiSI being used.

The model of operation incentivizes System Integrator to keep schools engaged. More they use, more is System Integrator's revenue.

A Reward and Recognition program for teachers and students is built-in.

Multiple baselines measure learning outcomes and provide mechanisms for analysis and early intervention.

# Learnings and room for improvement

Every  school is not alike. Tailoring from a standard template is needed.  ODiSI System Integrators fill that gap.

Strong engagement with Education department and mandates from officials can make huge difference.

More than anything, Schools need a Technical support structure for sustainability. Again, SIs role is exactly that.

For Digital technologies adoption, children are not the bottleneck, but the system governing them.

# Data points that show scaling is possible. How fast and where

Our dashboards show that within a month of starting, schools are able to use ODiSI and become productive.

Work in clusters of 10 schools, with pre-screening, risk analysis and mitigation plan is the approach to take (tech risks, teacher willingness, logistics)

Playbook that has been designed to onboard new System Integrators in new regions/clusters. OSAAT team of experts train new SIs to come up to speed.

Existing SI can take up additional clusters based on resources/skills/regional familiarity.

# Selection of schools for scaling, monitoring dashboards.

{Dashboard access to donors, technically possible needs to be vetted - student/teacher/school data privacy}

SI can also be tasked with sharing monthly reports with School sponsors (with personal data obfuscation)

Sponsors are most welcome to interact with adopted schools, either virtually or in person from time to time.

Current plan is to select schools in regions where OSAAT already has presence.  Even if it is not a OSAAT school, ODiSI can be deployed.