NDEAR and DIKSHA
Enabling Good Governance

Presentation by
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India K-12 Education System is big, diverse & complex

1.5 Million +
# of Schools

260 Million +
# of Students in schools

156 Million +
# of students in Govt and aided schools

104 Million +
# of students in private and other schools

9.6 Million +
# of Teachers

20+
Regional language as a medium of instruction

60+
Educational boards of instruction across country (central & states)

Source: UDISE+ Report 2019-20
We have clear policies - National Education Policy (NEP) 2020

1. Enhance education system that contributes to an equitable and vibrant knowledge society, by providing high-quality education to all.

2. Develops a deep sense of respect towards the fundamental rights, duties and Constitutional values, bonding with one’s country, and a conscious awareness of one’s role and responsibilities in a changing world.

3. Instils skills, values, and dispositions that support responsible commitment to human rights, sustainable development and living, and global well-being, thereby reflecting a truly global citizen.
Which emphasize upon Access, Capability, Quality, Equity & Outcomes

**Unique Capabilities**
Recognizing, identifying them in each student.

**Emphasize Conceptual Understanding**
Rather than rote learning and learning-for-exams

**Critical thinking and Creativity**
To encourage logical decision-making and innovation.

**Use of Technology**
In teaching and learning, removing language barriers, for Divyang students, and in educational planning and management.

**Respect for Diversity & Local Context**
In all curriculum, pedagogy, and policy.

**Equity & Inclusion**
As the cornerstone of all educational decisions

**Continuous Review**
Based on sustained research and regular assessment by educational experts.

**Community Participation**
Encouragement and facilitation for true philanthropic private and community participation.
To ensure access and opportunity to all children, we wanted digital innovations that can work at our scale, diversity & complexity.

- Expandable
- Flexible
- Federated
- Evolvable
- Fits existing institutional structures
- Enabling ability to see & monitor
We wanted a plug and play digital infrastructure that could work for all of India, and not just a specific solution.
India has recently launched NDEAR which provides building blocks for development of federated and interoperable systems.

**Vision:** A globally pioneering effort in education - A unifying national digital infrastructure to **Energise** and **Catalyse** the education ecosystem

NDEAR is federated, unbundled, interoperable, inclusive, accessible and evolving. It aims to create and deliver diverse, relevant, contextual and innovative solutions that benefit **Students, Teachers, Parents, Communities** and **Administrators** and result in timely implementation of policy goals.
Envisaged outcomes of NDEAR

- **The Students** get access to on demand learning materials, videos, graphics and animations, virtual labs and different forms of assessment tools. Access to personalized adaptive learning (PAL), Transition to higher education and skilling to be tracked.

- **The Teachers** get access to online support for lesson plans, use of TLM, pedagogic transactions, online reference materials, competency based evaluation tools etc. They also get access to online modules for improving professional standards.

- **Schools/School management** get access to school management practices, school related ERPs, learning management systems, data analytics etc.

- **Parents** get access to the child’s holistic progress reports, school performance, teacher performance. Community plays a role in voluntary engagement, CSR, mentorship etc.

- **Educational administrators** use data analytics to bridge infrastructure gap, teacher availability gap, address dropouts and make informed policy choices.
Catering to diverse scenarios and user types

5 Personas

3 Scenarios

2 Interactions

LEARN HELP LEARN MANAGE LEARN

LEARNING ADMINISTRATION
DIKSHA leverages NDEAR Building Blocks to provide a federated and interoperable system.
Building blocks were used for multiple use cases on DIKSHA with complete sovereign control.

1. Energised Textbooks
2. Teacher Professional Development
3. Question Bank
4. Content Sourcing
5. Content Authoring
6. Quizzes
7. Content Consumption
8. Data Tools & Dashboards
9. Chatbot
10. Digital Credentials
11. Collaboration
12. Phygital
13. cQube
14. Surveys
15. Language Translations
16. Mentoring
17. Sunbird Registry and Credentials
"DIKSHA is a customizable National Digital Infrastructure that states can use for their respective teacher-centric initiatives. Teachers will be able to use DIKSHA to access and create high quality teaching, learning and assessment resources for all subjects and levels in all Indian languages. DIKSHA aims to strengthen 'Our Teachers, Our Heroes'"

On the occasion of Teacher’s day, Hon. Vice President of India, dedicated DIKSHA, A National digital Infrastructure for Teachers, to the nation

"Technology will be used to upgrade the skills of teachers through the recently launched digital portal DIKSHA"

PM eVIDYA’ programme will consist of ‘DIKSHA’ involving e-content and QR coded energized textbooks for all grades and will be called as 'one nation, one digital platform'.

Shri Prakash Javadekar
DIKSHA Strategy Paper
May 2017

Shri Venkaiah Naidu
National Teacher’s Day
September 2017

Late Shri Arun Jaitley
Budget Speech
February 2018

Smt. Nirmala Sitharaman
Union Finance Minister
May 2020
DIKSHA - Journey so far (2/2)

**NEP Rollout**
- July 2020

**NISHTHA on DIKSHA**
- October 2020

**India-Africa Knowledge-sharing Webinar**
- December 2020

**6th Digital India anniversary**

**NIPUN Bharat Launch**
- 1st July 2021

**NDEAR Launch**
- 5th July 2021

**NEP Rollout**

In collaboration with MoE and MeitY, the World Bank conducted the webinar to enable remote learning through state-of-the-art digital education platform - DIKSHA, in post-COVID world.

**Hon'ble PM interacted with the beneficiaries of DIKSHA during 'Digital India' event and heard about the experiences with DIKSHA App and how it was useful for education during lockdown.**

**DIKSHA shall be integrated with the new Curriculum Framework by the States/UTs.**

**DIKSHA contains several building blocks that enable and support various use-cases, multiple languages and solutions for teaching and learning**

Extending horizons of DIKSHA in alignment with NEP 2020
Leading to unparalleled usage of the world’s largest, most diverse school education platform

- 4.02 Billion + Learning Sessions
- 48.6 Billion + Learning Minutes
- 27.3 Billion + Page Hits
- 30+ Languages

Data till 22nd November 2021

Source: diksha.gov.in
Resiliency during Covid shock: Multiple programs to continue learning & training

**Energized Textbooks (ETB)**
Physical Textbooks to 'Phygital' Textbooks

**Content Sourcing**
Sourcing high quality content in a controlled manner

**National Quizzes**
Interactive & competitive learning

**PM eVidya**
Aims to unify all efforts related to digital/online/on-air education to enable equitable multi-mode access to education

**Digital Teacher Training**
A nationwide capacity building programme for "Improving Quality of School Education through Integrated Teacher Training"
Coherent Access under PM eVidya program ensures inclusive, equitable access to education for all and also enabled our response to Covid

To enable coherence, the broadcast content is to be uploaded on DIKSHA, where this content is accessible any time even after the live broadcast, along with additional digital resources

State/UT is already broadcasting on TV/radio, they can use DIKSHA to achieve coherence
Bridging of physical and digital worlds by ‘energizing’ textbooks…

Instant, relevant, trusted help: ‘Energised’ textbooks with QR codes

- 4600 + Energized Textbooks with QR codes on DIKSHA
- 600 Million + energized textbooks have been printed and distributed across the country
- 180 Million + students
- 7 Million + teachers
In a small village in Tanzania, Africa, Mamba gets up very early in the morning to fetch water. She has to walk a long way and returns after a few hours. She then helps her mother in the house and joins her brothers in taking care of their goats. All her family owns is a piece of rocky land where they grow some maize and beans on a plot of land. Peter lives in the heart of the sheep rearing region in New Zealand where he keeps sheep and runs a sheep processing factory. Everyday when he returns from school, Peter watches his uncle taking care of their sheep. Their sheep yard is situated on a wide grazing plain with hills in the far distance. It is managed in a scientific way using the latest technology. Peter’s family also grows vegetables through organic farming.

Mamba and Peter stay in two different parts of the world and lead very different lives. This difference is because of the differences in the quality of land, soil, water, natural vegetation, minerals and the usage of technology. The availability of such resources is the main reason places differ from each other.

Land

Land is among the most important natural resources. It covers only about thirty per cent of the total area of the earth’s surface and all parts of this small percentage are not habitable. The uneven distribution of population in different parts of the world is mainly due to varied characteristics.
Enabling learning in 30+ languages
Digital Teacher Training has enabled continuity in training of teachers during Covid and is a world record in the making

18 Modules
Contextualised and translated in 10 regional languages for NISHTHA

3 Months
Program Time v/s Full last year

10+
Languages / Medium of Instructions

2.5 Million +
teachers trained at primary and upper primary level (grades 1-8)

44 Million +
Digital Certificates issued

Trained at 5% cost and 4x speed
We also conducted a variety of assessments

**5 Questions a Week (5QAW)**

5 questions are shared every week to **enhance higher order competencies of learners and connect learning with real life solutions**

**Quizzes on DIKSHA**

Quizzes on **joyful mathematics, science, reading comprehension** Constitution of India, Yoga, etc. have been launched on DIKSHA

Quizzes promote **Interactive, engaging and competitive learning**
VidyaDaan - a program to source high quality content in a controlled manner leading to diversity in content

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<thead>
<tr>
<th>Count</th>
<th>Description</th>
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<tbody>
<tr>
<td>2</td>
<td>Central Organizations (NCERT and CBSE) doing VidyaDaan</td>
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<tr>
<td>14</td>
<td>States doing VidyaDaan</td>
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<tr>
<td>38,000+</td>
<td>Digital content contributed through VidyaDaan</td>
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<td>29,000+</td>
<td>Digital content approved through VidyaDaan</td>
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A program of the nation, for the nation and by the nation to ensure continuity of quality learning.
Programs follow a well defined decentralised model of content contribution and review governed by central and state institutional structures to ensure quality.
Leading to variety & diversity in content

- **200,000+ Content and Courses**
- **11,000+ Organizations and Individuals contributed**
- **40+ State institutions and Central Organizations**
- **Content is available in 30+ languages**

A journey from content to competence
...including content for Children With Special Needs

Content for hearing impaired in sign language

Content for visually impaired in Digital Accessible Information System (DAISY)
To ensure an inclusive classroom environment.

To enable children to become motivated, independent, and engaged readers and writers with comprehension.

To make children understand the reasoning in the domains of number, measurement and shapes.

To ensure availability and effective usage of high-quality and culturally responsive TLM in children’s familiar/home/mother language(s).

To focus on continuous capacity building of teachers, head teachers, academic resource persons and education administrators.

To actively engage with all stakeholders for building a strong foundation of lifelong learning.

To ensure assessment ‘as, of and for’ learning.

To ensure tracking of learning levels of all students.

NIPUN Bharat Mission: To achieve universal foundational literacy and numeracy in primary school by 2025.
DIKSHA is built on free open source platform “SUNBIRD” ‘Made in India’, ‘Made for the World’
# Open Source Tech Stack

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<tr>
<th>Nginx</th>
<th>Ionic</th>
<th>Node.js</th>
<th>Redis</th>
<th>Angular</th>
<th>Grafana</th>
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<td>Sunbird</td>
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<td>Semantic UI</td>
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DIKSHA as Digital Public Good

DIKSHA platform is built on open source: **DIKSHA software code can be easily offered as Digital Public Good** to the world - See [https://diksha.gov.in/help/diksha-oss/](https://diksha.gov.in/help/diksha-oss/) for listing of software within DIKSHA.

As per open data and NDSAP policies: **DIKSHA open data can be offered as Digital Public Good** to the world - See [https://diksha.gov.in/data/datasets/](https://diksha.gov.in/data/datasets/) for open data catalogue of DIKSHA.

As per DIKSHA policy, content on DIKSHA is available under Creative Common (CC) licenses: **DIKSHA Content can be accessed via OPEN APIs and can be offered as Digital Public Good** to the world.

**DIKSHA follows privacy by design, data protection principles and has a consent-based architecture.** - See [https://diksha.gov.in/term-of-use.html](https://diksha.gov.in/term-of-use.html) for Terms of Use and Privacy Policy of DIKSHA
Thank You