

# TECHNOLOGY-DRIVEN EDUCATION REFORM IN INDONESIA

A look into the current status of technological interventions in the Merdeka Belajar program

6<sup>th</sup> December 2023

# INTRODUCING YOUR PRESENTER FOR TODAY

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# OLIVER WYMAN IS A LEADING GLOBAL MANAGEMENT CONSULTING FIRM WITH DEEP EXPERTISE IN EDUCATION AND PUBLIC SECTOR INDUSTRY

We have global presences in various industries...

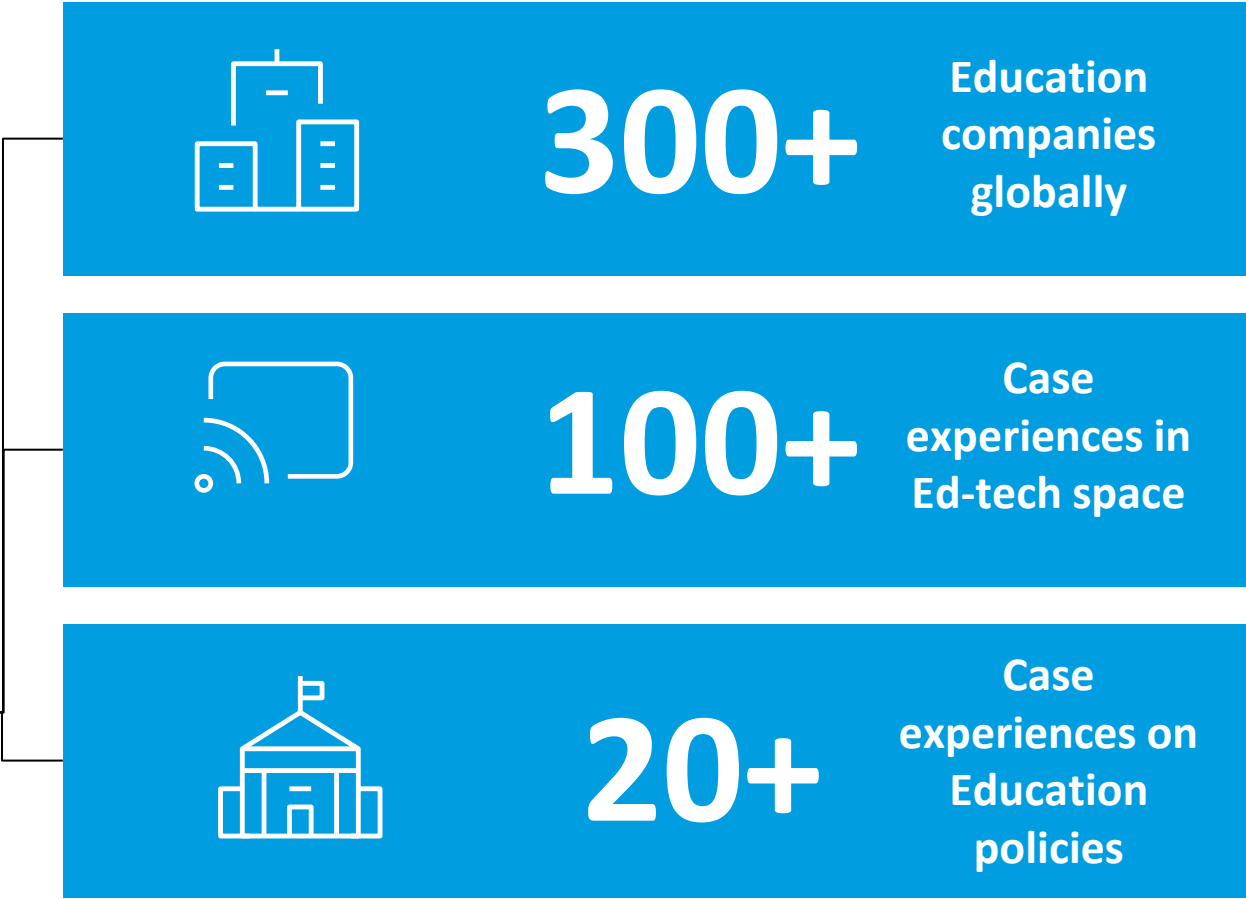


Oliver Wyman has an office or project executed during the past 2 years

Industry and sector presence:

- Public Sector and Policy
- Energy and Natural Resources
- Financial Services
- Comms, Media, and Technology
- Education
- Retail and Consumer Goods
- Industrial Products
- ...

And our education practice has in-depth experience in both private and public sectors



# THE OVERARCHING CHALLENGES IN EDUCATION INDUSTRY WORLDWIDE ARE QUALITY, EFFICIENCY, AND EQUITY AND INCLUSION

Three most important educational challenges identified by UNESCO



## QUALITY

- 01** Create engaging learning environments
- 02** Facilitate collaborations
- 03** Expand connections



## EFFICIENCY

- 01** Reduce time students and teachers spend on menial tasks for more meaningful educational activities



## EQUITY AND INCLUSION

- 01** Lower access cost of disadvantaged groups
- 02** Improve access to quality educational contents

Source: Global Education Monitoring Report 2023 (UNESCO), Oliver Wyman analysis



## HOW IS INDONESIA LEVERAGING TECHNOLOGY TO ADDRESS QUALITY, EFFICIENCY, AND EQUITY CHALLENGES?

- 01** The challenges that confront Indonesia and root causes behind them
- 02** The technological interventions introduced to facilitate education reform
- 03** The intermediate impact that technology intervention has achieved
- 04** Where does Indonesia stand and suggestions for the future

# INDONESIA GOVERNMENT RECOGNIZES THE URGENCY OF IMPROVING EDUCATION QUALITY AND IS DRIVING TRANSFORMATION OF A MASSIVE EDUCATION ECOSYSTEM

Landscape of Indonesia K-12 education system, 2023



Basic education system grappled with low academic performance and regional disparity

Indonesia launched Merdeka Belajar initiatives to tackle these challenges

**The urgency of the task, and the complexity and breadth of the K-12 education system makes innovative approaches an imperative**



**STUDENTS**  
**52.8 Million**



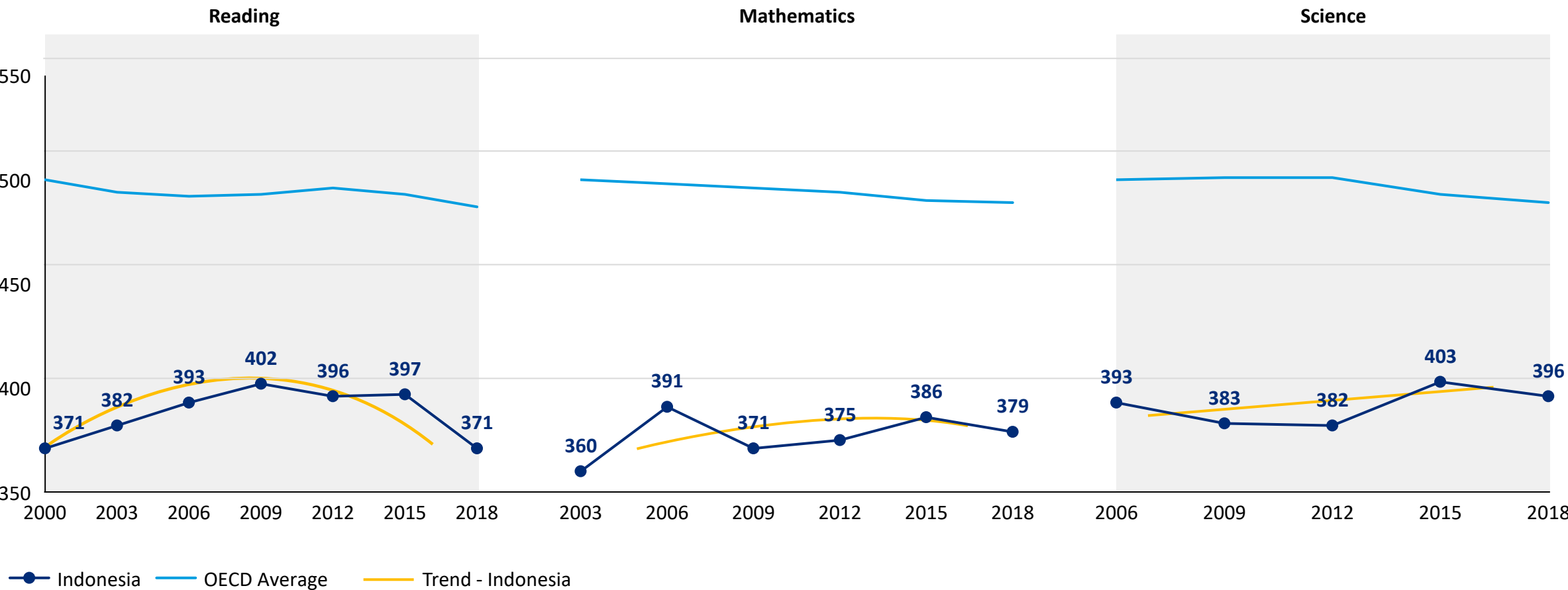
**TEACHERS**  
**3.4 Million**



**SCHOOLS**  
**437 K**

# BASIC EDUCATION SYSTEM GRAPPLED WITH LOW ACADEMIC PERFORMANCE...

Indonesia's 2018 PISA results

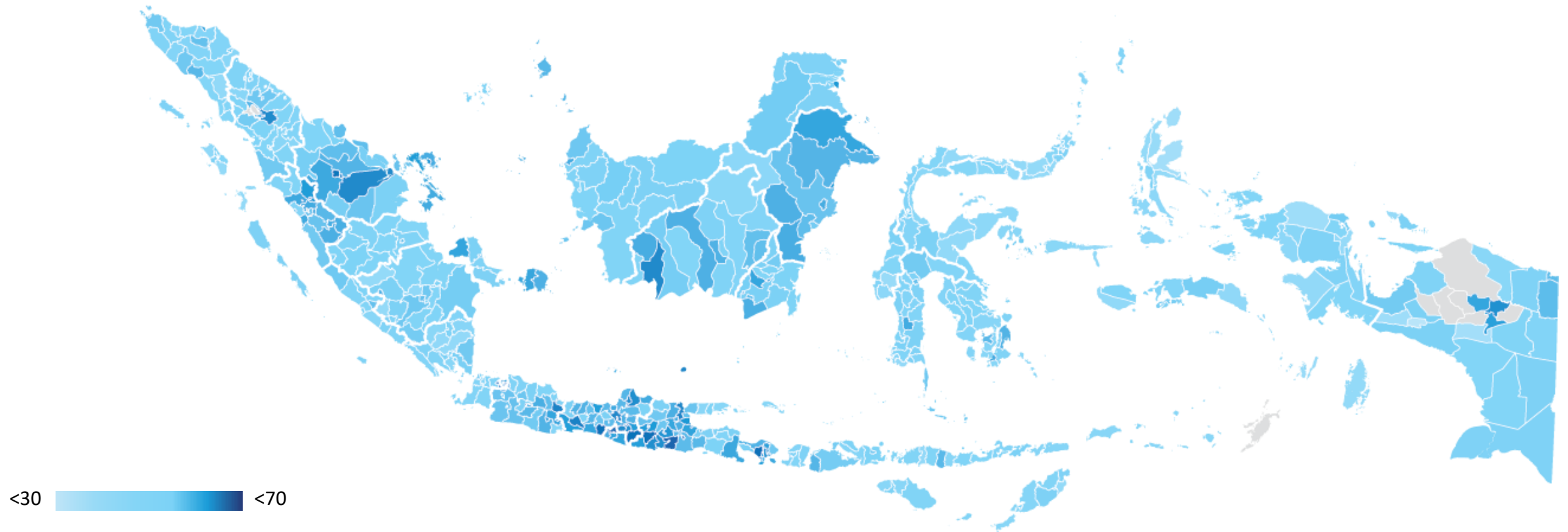


Source: OECD Programme for International Student Assessment. 2018  
© Oliver Wyman



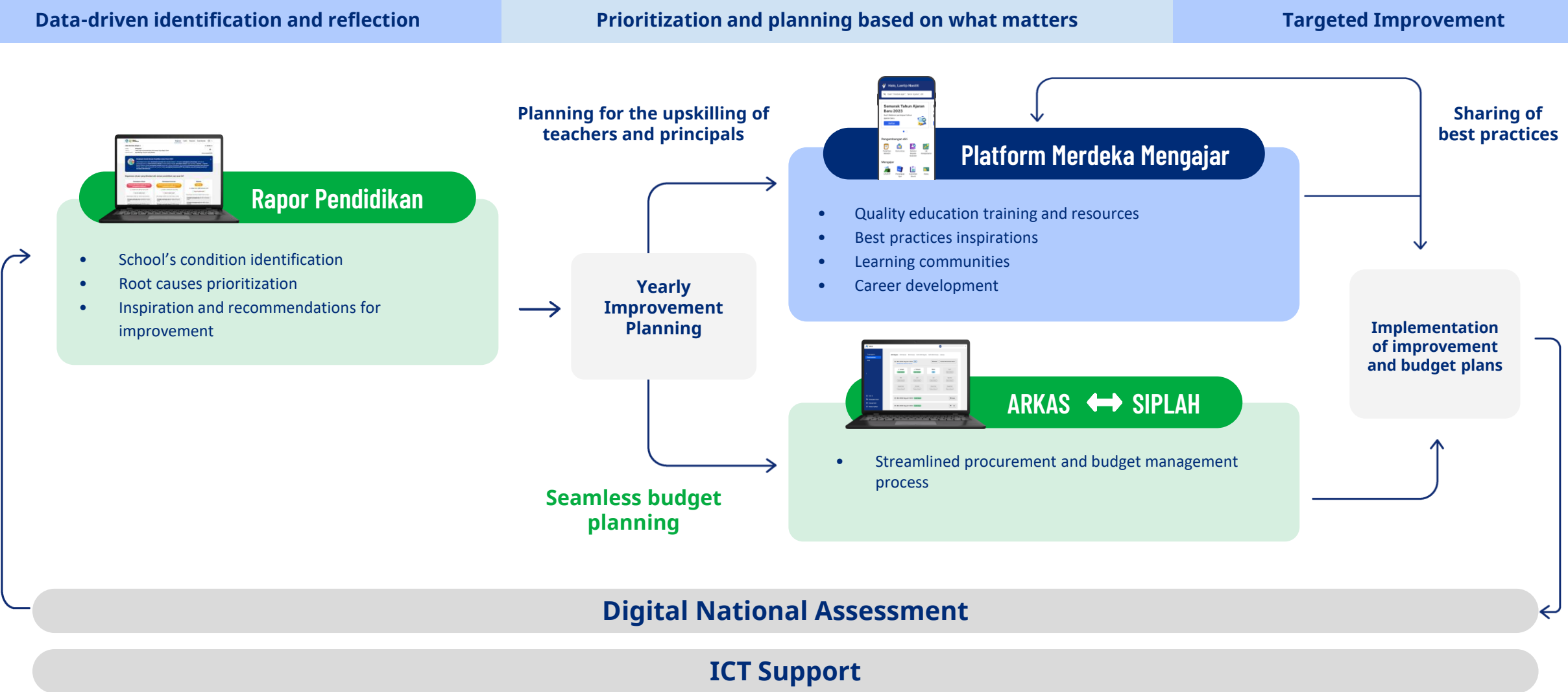
# ... AND THERE ARE REGIONAL DISPARITIES HIDING BEHIND THE LOW AVERAGE LEVEL

Literacy competency score from Asesmen Nasional, 2021  
In elementary/mi/equivalent level

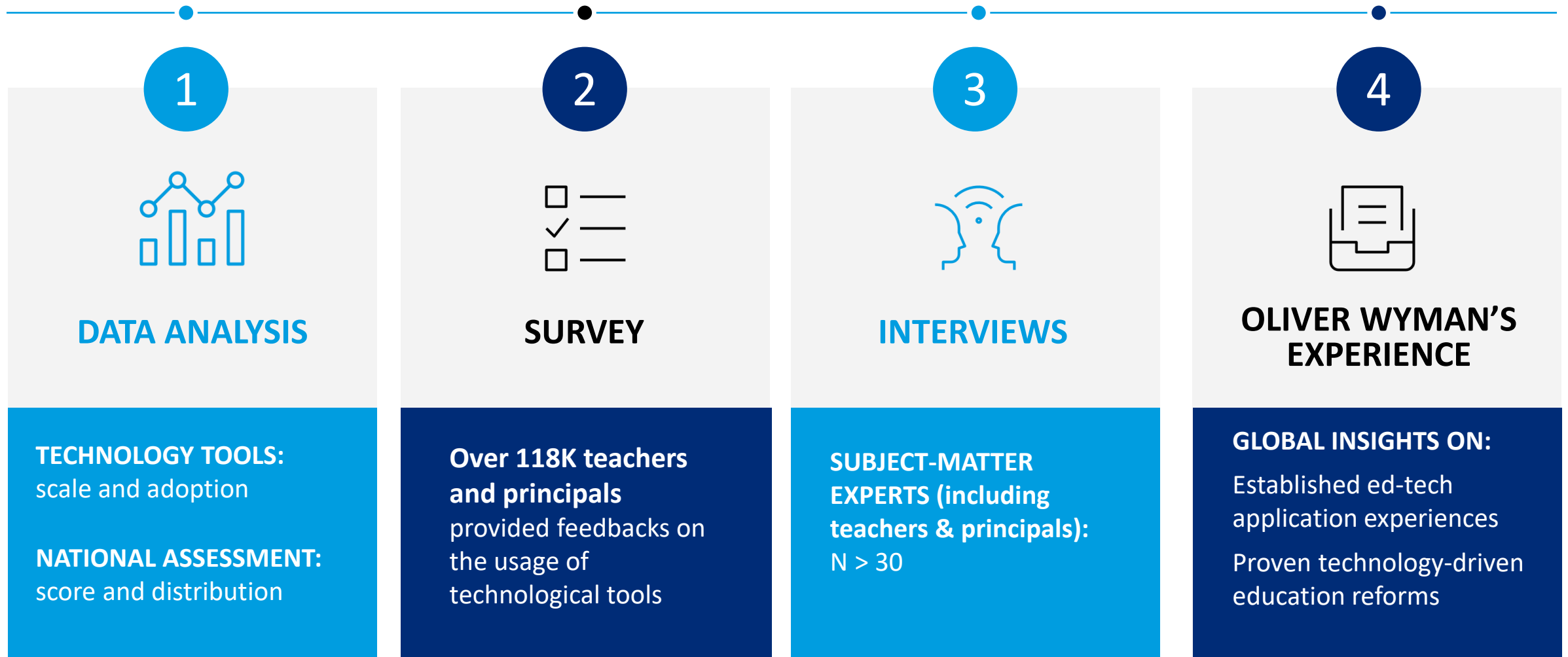




# INTEGRATED TECHNOLOGY ECOSYSTEM INTRODUCED BY INDONESIA MOECRT TO FACILITATE THE REFORM

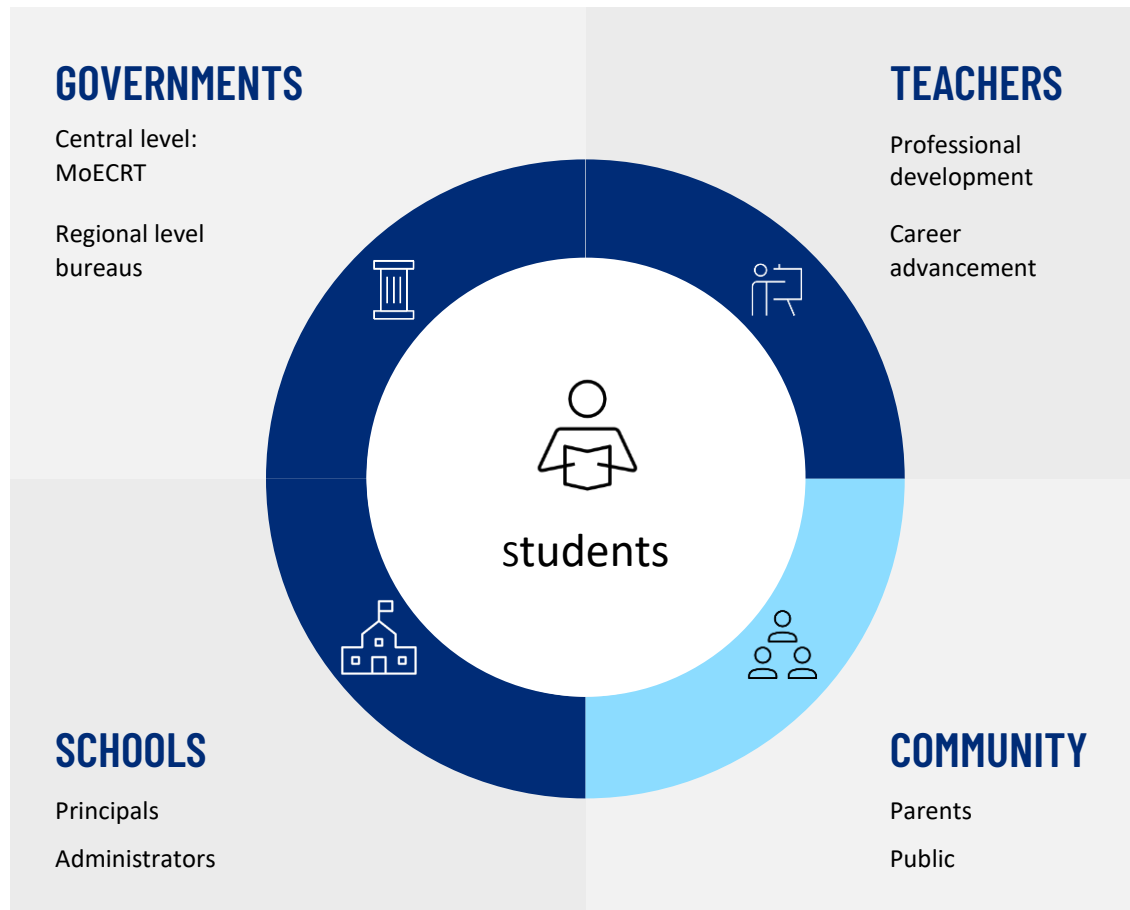


# A DATA-DRIVEN APPROACH IS ADOPTED TO IDENTIFY INTERMEDIATE CHANGES ACHIEVED THUS FAR



# THE STUDY FOCUSES ON UNVEILING TRANSFORMATIONS AMONG KEY EDUCATION ACTORS' BEHAVIORS, MINDSETS, AND CULTURAL SHIFT IN EDUCATION SYSTEM

Education units and actors: drivers and beneficiaries of transformation

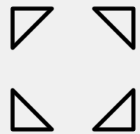


Significant intermediate impacts have been observed in terms of behaviors, mindsets, and culture...

... that pave the way for profound systemic transformation to collaborative learning communities...

... where every education unit and actor is motivated and supported to drive sustainable educational quality improvement

# IMPACT ON GOVERNMENT: POSITIVE CHANGES IN THE WAY TECHNOLOGY IS INTRODUCED AND INTEGRATED INTO THE EDUCATION SYSTEM



## Route of technology

### Teacher and school principals centric:

Building technology ecosystem to be used and guided by teachers, instead of directly to students

### User-centric:

Maximize the accessibility and impact via cellphone-based solutions; empower education actors to release potential, instead of full workflow digitization

### Multiple distribution strategies:

Attentive to the needs of disadvantaged groups

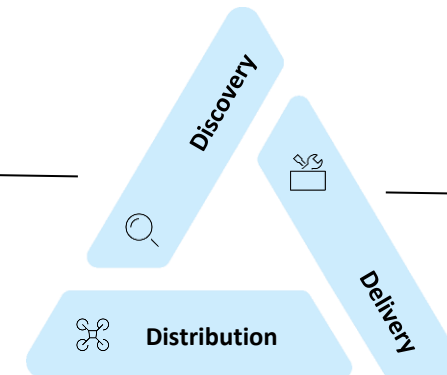


## Development of technology

### User-centric principle

### Iterative development cycle

- Vision and problem to be solved
- Insights from users
- Potential solutions, content
- Policy and transformation points

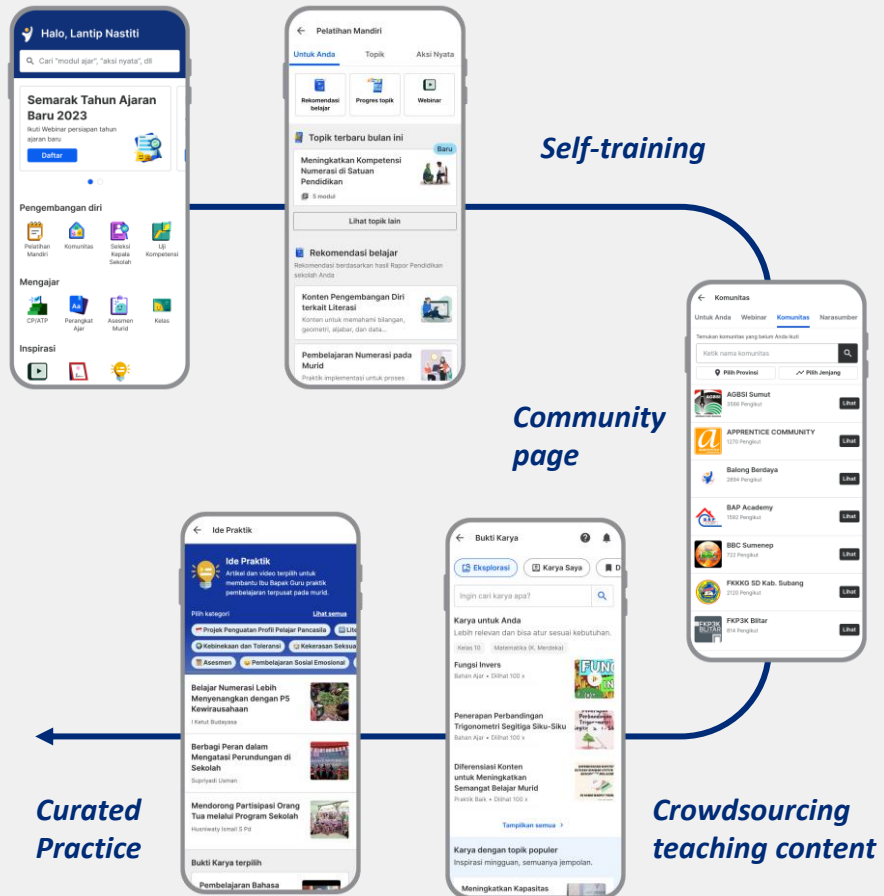


- Scope and product requirements
- Develop and build the product
- Provisioning of infrastructure
- Content production and quality control
- Align on the important goals and data tracking

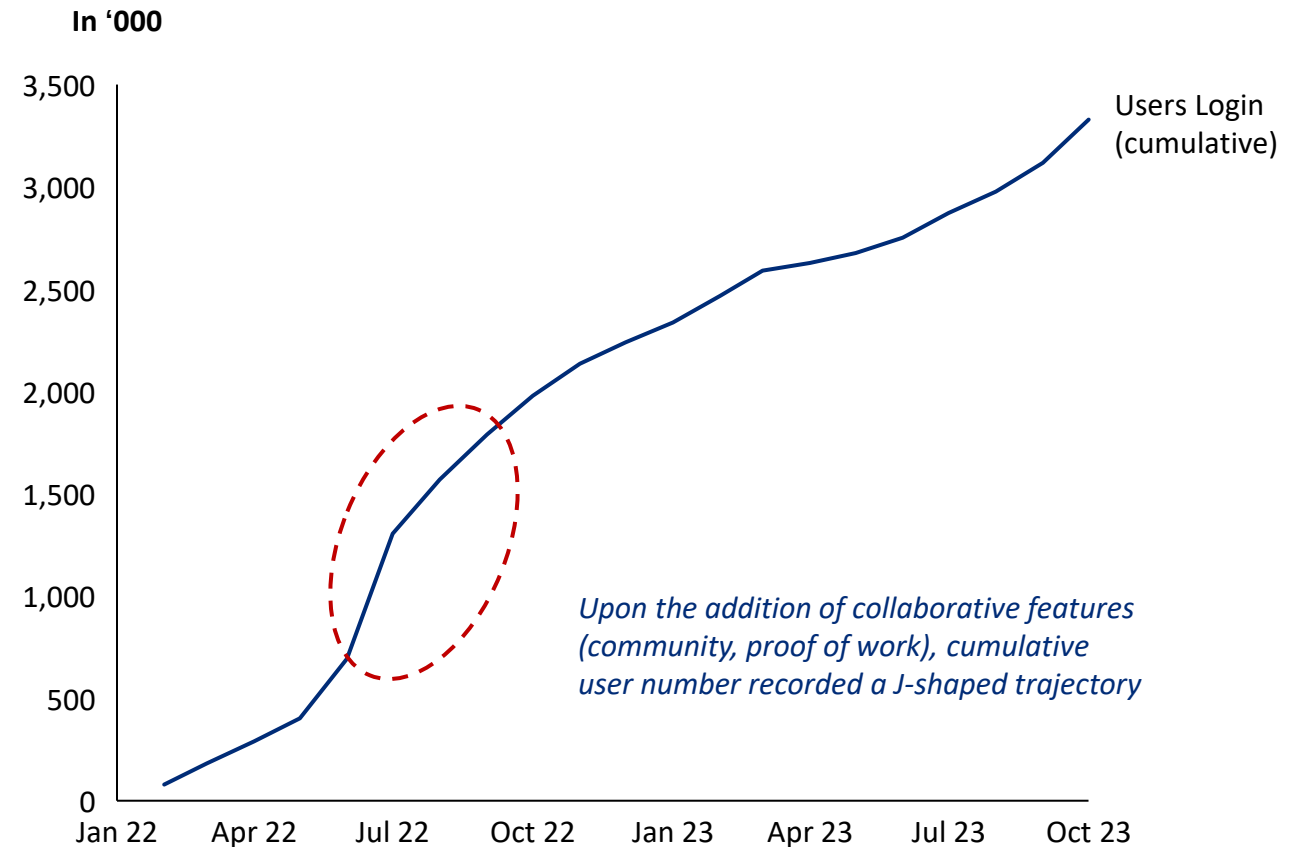
- Adoption strategy and retention strategy
- Support of customer operations, content contributor management, materials curation
- Product performance and usability analysis

# RAPID GROWTH IN USER NUMBERS OF PLATFORM MERDEKA MENGAJAR AS IT EVOLVED FROM A PRESCRIPTIVE TOOL FOR CURRICULUM, TO AN ECOSYSTEM FOR TEACHER TO USE

Evolvement of PMM to an ecosystem of teachers' tools



Cumulative logins of PMM from January 2022 – October 2023



# IMPACT ON TEACHERS AND PRINCIPALS: BETTER ACCESS TO EDUCATION RESOURCE, COMMUNITY SHARING, TRAINING, AND PROFESSIONAL DEVELOPMENT OPPORTUNITIES



QUALITY

- Self-paced upskilling for teachers
- Engaging learning communities
- Student-centric concept



EQUITY & INCLUSION

- Widened opportunities of teachers' professional development and peer engagement



EFFICIENCY

- Faster distribution of new curriculum
- Less distortion in communications

REACHED  
of 1.12 teachers  
**80%+**

**> 1 MILLION**  
monthly active users

**4.1 MILLION**  
training participants

Kurikulum Merdeka reference for  
**90% TEACHERS**

“

*If I had to choose one word to describe PMM, it would be "satisfied". PMM fulfills all my desires as a teacher, from the ability to learn according to my needs and engage with the community to expand my network.*

– Principal from SDN Haruyan, Banten

# PMM EMPOWERS TEACHERS TO ENHANCE THEIR SKILLS ANYTIME ANYWHERE..

According to PUSDATIN (Center of data and information by MoECRT):

84%

Users are using PMM for learning-related activities<sup>1</sup>, such as Pelatihan Mandiri and various webinars

4.1  
MILLION

Total Pelatihan Mandiri participants from Oct'22-23

~7x of 2019 offline training (~620K)

1. As of early November 2023

Source: PUSDATIN (Center for Data and Information, MoECRT), Teachers and Principals survey (n=118K), Oliver Wyman analysis

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# ... AS WELL AS ENGAGE IN COMMUNITY-BASED COLLABORATIVE LEARNING, AND BOOST POSITIVE MINDSET SHIFTS

## ENGAGE IN COMMUNITY



According to Oliver Wyman's teacher survey (2023), after using PMM:

**84%**

More inspired in adopting diverse teaching methods

**50%**

More encouraged to share their learnings with other teachers

“ The community feature in PMM helped me connect with individuals who share similar interests, find competent sources that facilitate meaningful discussions, and ultimately making a positive impact on the community

– Teacher from SMAN 2 Pamekasan, East Java

## POSITIVE MINDSET SHIFT



According to Oliver Wyman's survey (2023), after using PMM:

**~60**

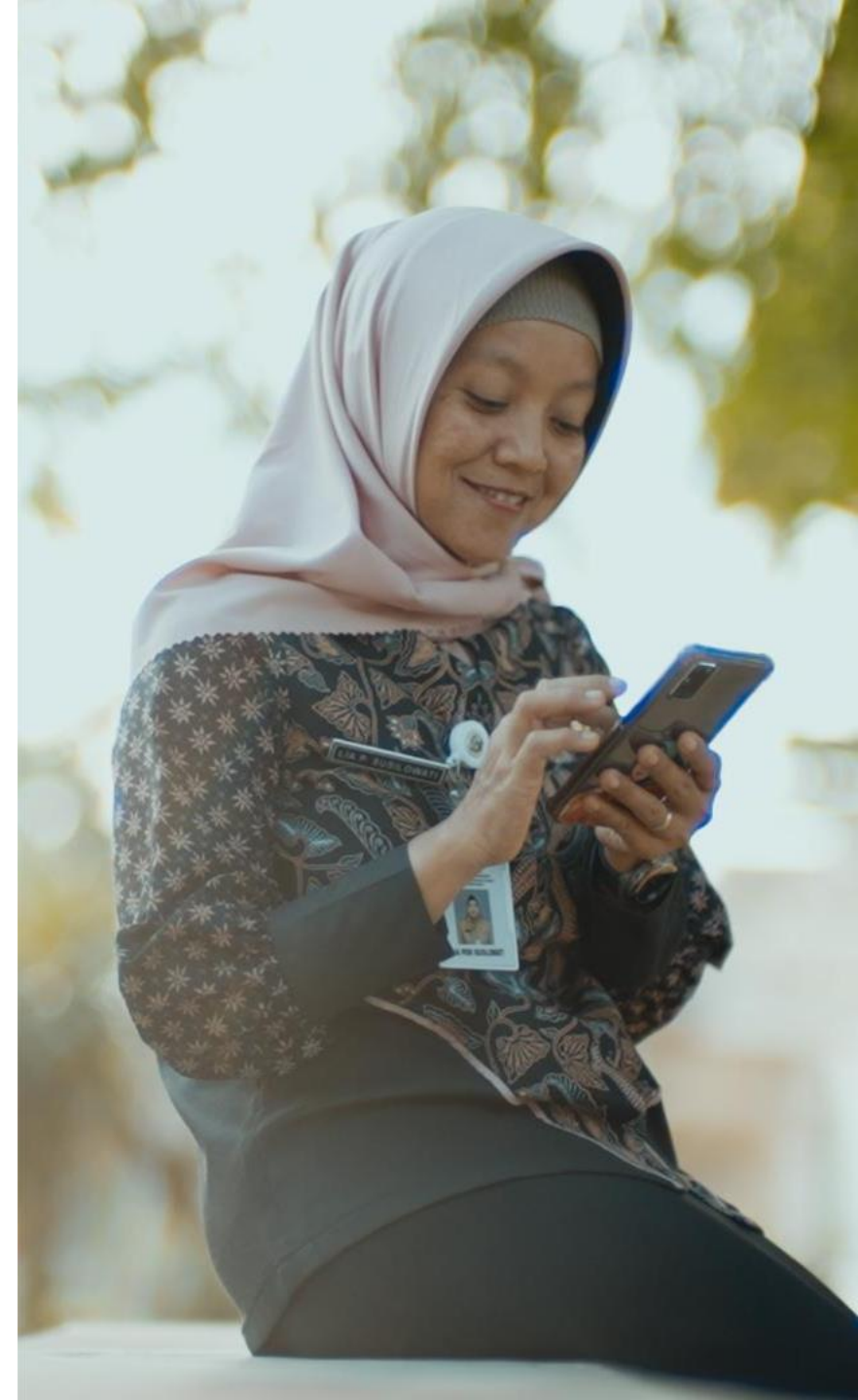
Recognize student-centric concept and that each student is different

**%50**

Increased self-esteem and sense of pride

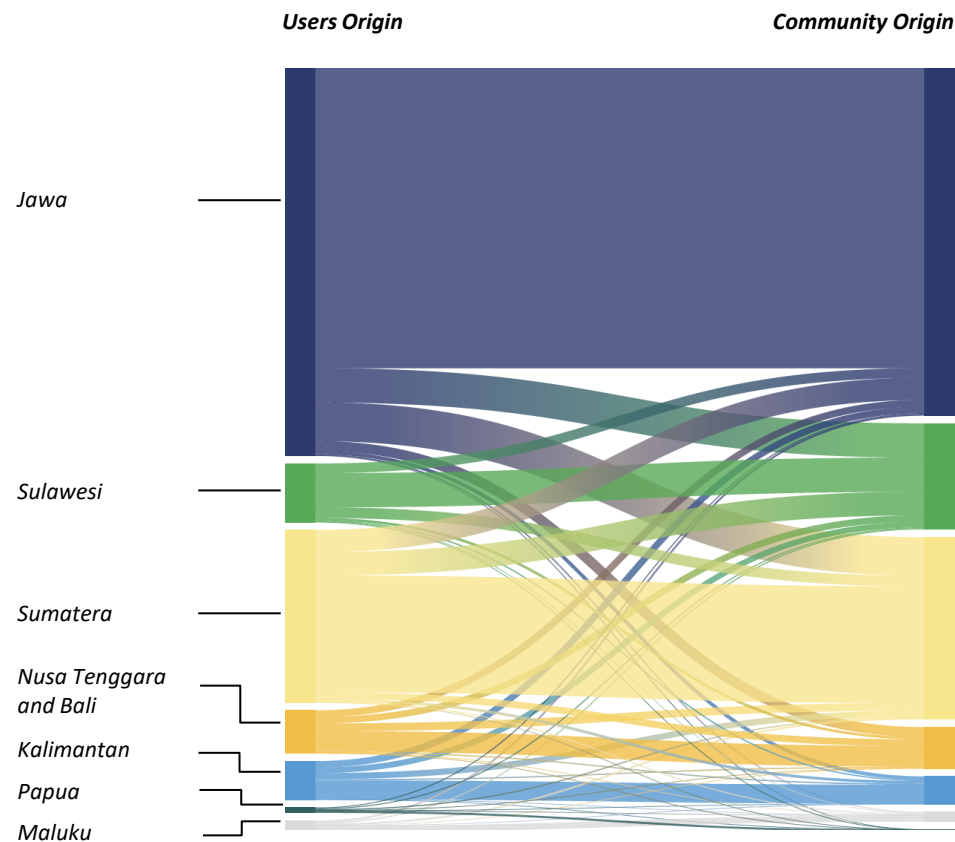
“ Using PMM has boosted my confidence. It's reassuring to know that I have a reliable source just a click away. If I ever need to review certain materials, I can always refer back to the platform and refresh my memory

– Principal from SMPN 1 Ratahan, North Sulawesi

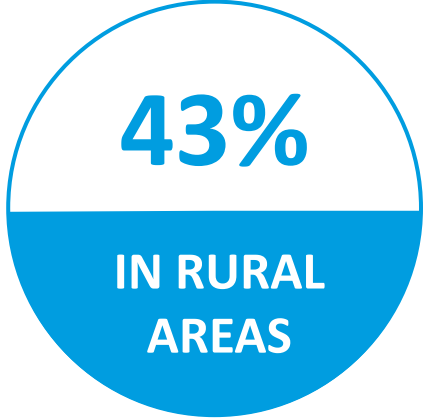


# COMMUNITY FEATURE FOSTERS NETWORK EFFECTS OF MUTUAL INSPIRATION AND LEARNING AMONG PEERS, AND CONSIDERABLE NUMBER OF RURAL AREAS TEACHERS ALSO USE PMM

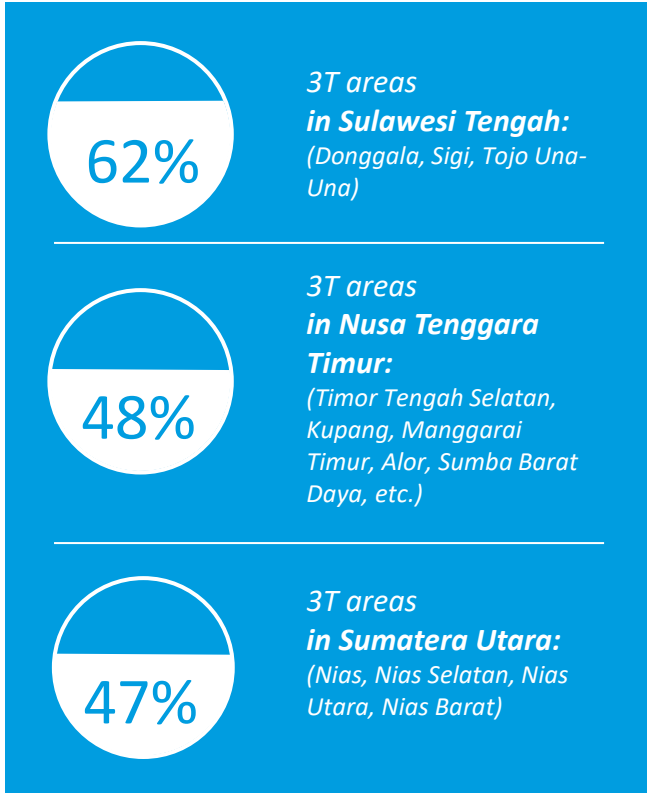
## MIX OF REGIONS IN TEACHER COMMUNITY PARTICIPATION



## PMM PENETRATION IN 3T AREAS

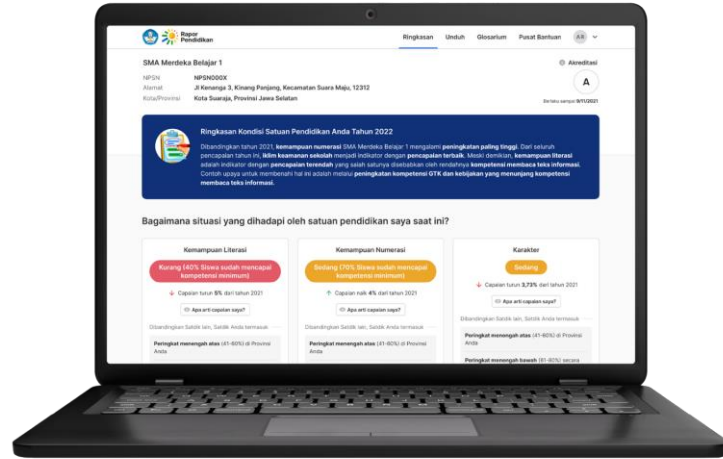


80K out of ~200K teachers use PMM in those areas



Most populated provinces (62% of total 3T area teachers)

# IMPACT ON SCHOOL MANAGEMENT AND ADMINISTRATION: QUALITY DECISION, TIME SAVING, AND IMPROVED TRANSPARENCY AND EFFICIENCY

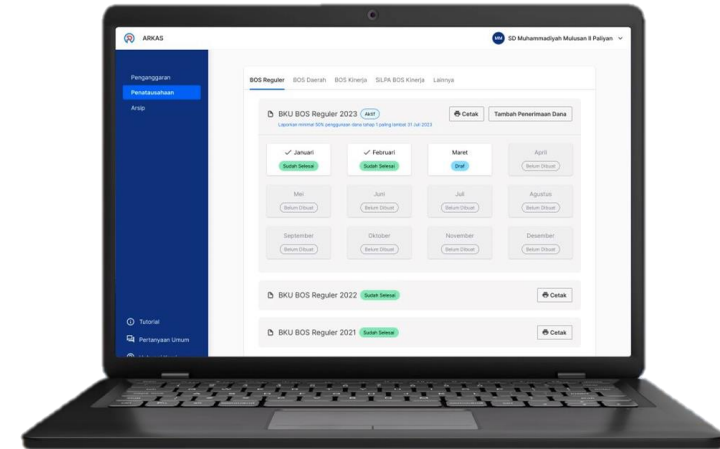


Decision-making  
and self-reflection

Suggestion of  
improvement  
provided to schools

Engagement with  
wider stakeholders

Rapor used by  
**95% OF SCHOOLS**



Reduction of human  
error and routine  
work

Time saving and  
reassurance of  
impact

Improved  
transparency and  
financial discipline

Integrated efficiency improvement:  
**ARKAS & SIPLah**

# RAPOR PENDIDIKAN IMPROVES QUALITY OF SCHOOLS’ DECISION-MAKING AND PLANNING, BY PROVIDING MORE OBJECTIVE DATA-DRIVEN DIAGNOSIS AND RELEVANT SOLUTIONS

## SOURCE OF INFORMATION FOR NEW SCHOOL YEAR PLANNING

Prior the use of Rapor Pendidikan (% of total mentions)

72%

*Based on previous years’ planning documents*

→ *Path dependence*

50%+

*Information in Rapor Mutu or from EDS (Evaluasi Diri Sekolah)*

→ *Self-reported: incomplete*

40%+

*Independent observations or opinions from teachers*

→ *Observation-based: subjective*

*According to Oliver Wyman’s principal survey (2023):*

84%

Principals recognize that Rapor’s key benefit is access to data intelligence for effective educational activities planning

79%

Principals leverage the results from Rapor to prioritize areas requiring enhancement



“

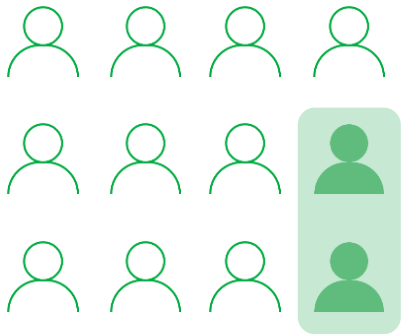
*Before using Rapor Pendidikan, the school relied solely on teacher discussions without specific benchmarks. The references were limited to individual children's report cards or the results of annual competitions with other schools. With the introduction of Rapor, there is now a clear and comprehensive reference for effective planning*

– Teacher from SDN Haruyan, Banten

# ARKAS AND SIPLAH HELPED EDUCATORS IN STREAMLINING ADMINISTRATIVE TASKS, REDUCING TIME IN BUDGET MANAGEMENT AND PROCUREMENT

~10%

teachers hold a double role as “treasurers”, who manages school’s operational funds



## ARKAS

According to Oliver Wyman’s teacher survey (2023):

84%

Recognize ARKAS’s capabilities in **streamlining processes and saving their time**

46%

Appreciate the guidance provided by ARKAS in adjusting their budgets to **meet compliance requirement**

“

Currently ARKAS complies with the latest technical instructions for BOS and there is also a notification when an entry is made incorrectly, these features have taken away all my worries during reporting

– Teacher from SDN 2 Mlaya, Banjarnegara

## SIPLah

According to Oliver Wyman’s survey (2023) and Center for data and information, MoECRT:

~20%

Schools uses SIPLah together with ARKAS

70%+

Highlights efficiency in **expediting the search and delivery of products**

“

Using SIPLah, the delivery was very fast; it arrived in a week. Before that, the delivery took a while, as it took 1-2 months for the book to be available

– Teacher from SMP Satu Atap YPPK Tanah Merah, Boven Digul, Papua



# UTILIZATION OF ARKAS PLATFORM HAS SAVED SIGNIFICANT TIME FOR TEACHERS, ENABLING THEM TO FOCUS ON IMPROVING TEACHING QUALITY, METHODS, AND ACTIVITY PLANNING

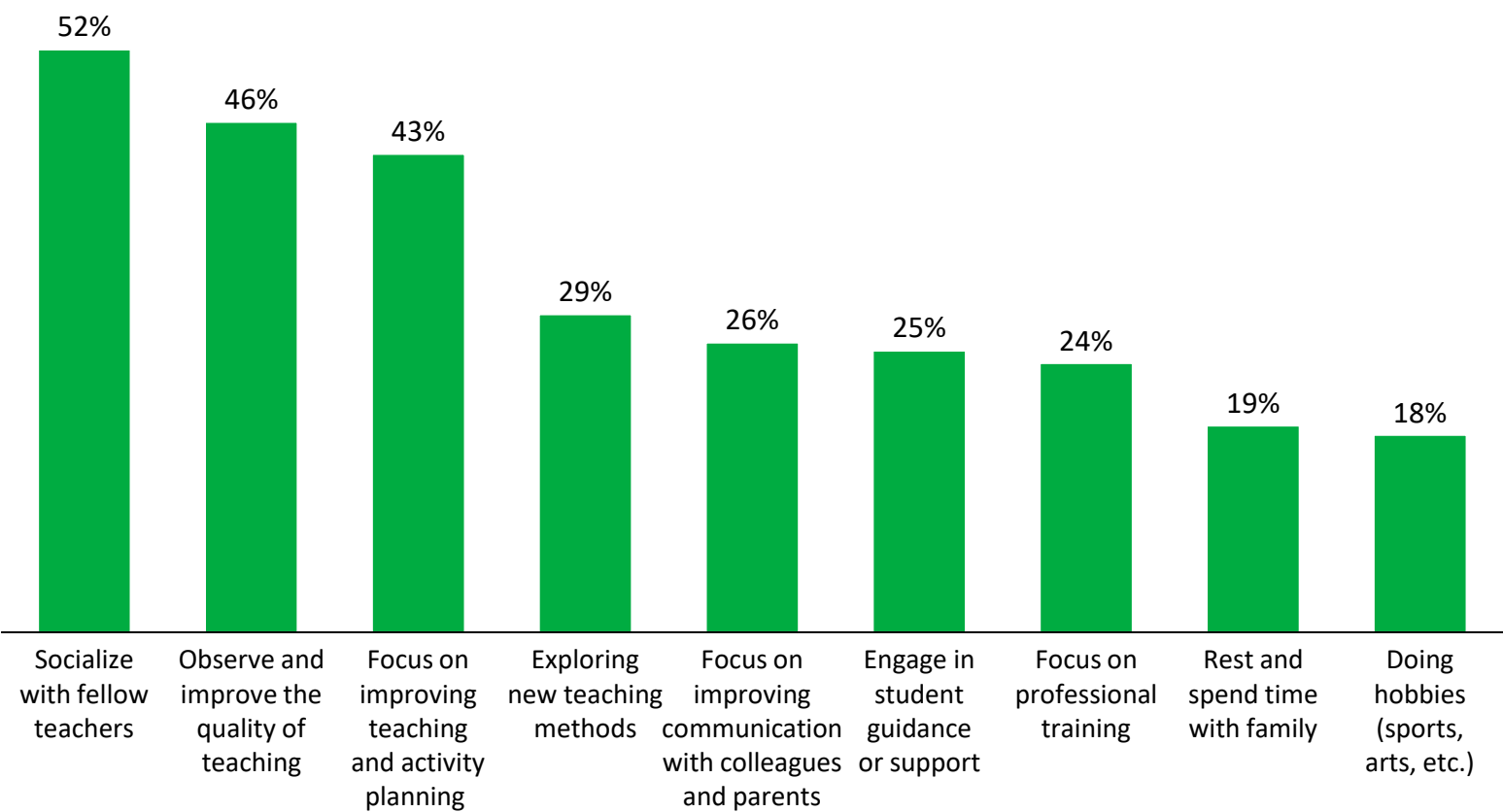
Time saved using ARKAS per month



>3 Hours

*Per month on average*

The utilization of the saved time  
Percentage of total mentions



# WE ARE IN A WORLD WHERE TECHNOLOGICAL INNOVATION IS ADVANCING AT AN UNPRECEDENTED PACE, IT IS DRIVING POSITIVE CHANGES IN EDUCATION SECTOR AS WELL

Perspectives on technology-enabled education from global perspectives

## Technology is a means, not an end, for education

- The center of education should always be people: students, teachers, parents, etc.
- While introduced to facilitate changes, technology should focus on enabling educational actors

## There is no standard paradigm in the Ed-tech landscape

- Leading countries took 2-3 decades to build full-fledged ecosystem
- Developing countries can adopt their own paths, given:
  - Technology evolves fast
  - Each country has its own priorities and characteristics

## However, there are proven practices and lessons learned

- Teacher-centric rule when equipping schools with smart devices in K-12 stages
- Ensure accessibility to avoid widening digital gaps
- Accumulate digital assets to enable individualized education
- ...

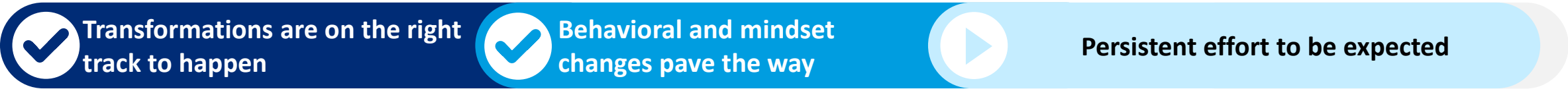
**Instead of judging technology itself, it's more important to evaluate if technology is driving positive changes, and is adopted carefully to ensure quality, efficiency, and equity improvement**



# INDONESIA TOOK A STRIDE IN THE RIGHT DIRECTION; CONSISTENT AND COLLABORATIVE EFFORTS WITH CONVICTION IS THE PRE-REQUISITE FOR LONG-TERM SUCCESS

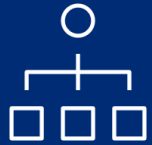
Where does Indonesia stand today in education-technology strategy?

Reflect on the globally proven experiences and avoid pitfalls	Drive positive intermediate changes that pave way for systemic transformation	Way of working as important institutional changes
<ul style="list-style-type: none"><li>Teacher/principal centric in technology distribution and development</li><li>Digitize assessment results as basis of individualized planning</li><li>Taken measures to improve accessibility and inclusion</li></ul>	<ul style="list-style-type: none"><li>Recorded working efficiency improvement and workload reduction</li><li>Sparked and rippled positive mindset, cultural and behavioral changes among the most crucial education actors</li></ul>	<ul style="list-style-type: none"><li>Collaborative and iterative to represent end-user value and to meet needs</li><li>More important than tools and platforms, implying potentials of “more to come”</li></ul>



A collective and collaborative endeavor with conviction between MoECRT, different Ministries, regional governments, educators, families and communities will empower future generations to do even better

# BUILDING ON ALL THE GOOD WORKS, WHERE COULD INDONESIA DOUBLE DOWN ON IN THE FUTURE?



## Build Full through and transparent teacher career advancement system

- Improve the overall quality of the teaching workforce



## Expand scope of professional training to broader spectrum of themes

- Tech-enabled coaching
- Subject-base training...



## Support teacher and student with more extensive quality education resources

- Curated, extensive education content through OER



## Take Further steps to ensure equal access and inclusiveness of technological tools

- Uncover root causes of gaps
- Provide equally effective solutions

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data and information



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