

IEA Hamburg Developments

*64th IEA General Assembly
27 September, Versailles*

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Day-to-Day
Business

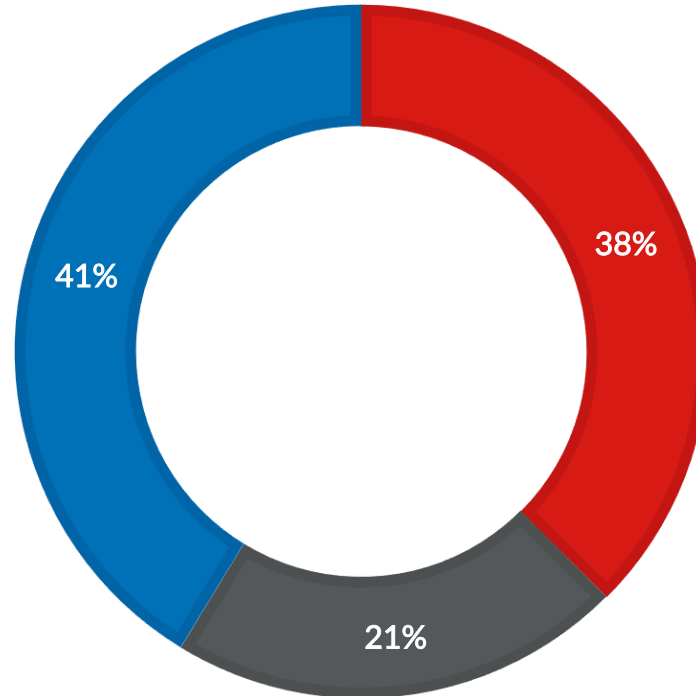
IEA Hamburg Developments

Day-to-Day Business

The implementation of the studies this year was smoother than last year, both nationally and internationally.

Studies in Germany (>14)

TIMSS-Germany
ICILS-Germany
Bildungstrend 2021*
Bildungstrend 2022*
PISA-Germany*
NEPS*
INSIDE II
EvIk
FIPS+
TALIS Starting Strong Germany
TOSCAneo
PerFair
KWik
SchiWa
...



International IEA Studies (9)

PIRLS 2021*
ICCS 2022
ICILS 2023*
TIMSS 2023*
TIMSS-L
LaNA
PIRLS 2026
ICCS 2027
ICILS 2028

Additional International Studies (5)

OECD TALIS 2024*
OECD PIAAC Cycle 2
OECD IELTS 2024
National Evaluation Haiti
UNICEF LSCE

Day-to-Day Business (cont.)

- Increased attendance of in-person meetings, events, conferences
 - Recruited, hired, and introduced new colleagues
 - Intensified activities around knowledge transfer
 - Continuous review of internal processes to verify suitability of fast changing computer-based assessment (CBA)-world
 - Participated in tendering processes, proposal writing
 - Took care of data protection and information security issues
- ... and much more

A stylized graphic of a tree branch and leaves in dark blue and purple tones, set against a light blue background. The branch curves from the bottom left towards the top right, with several smaller branches and clusters of leaves extending from it. The leaves are simple, oval-shaped silhouettes.

Study
Expert

IEA StudyExpert

IEA StudyExpert

- Starting three years ago, IEA began development of its own new system to run CBA studies
- Serves as a platform for creating, managing, and implementing digital assessments
- Initiated by the desire to decrease dependencies on external services that host CBA systems
- Having our own system gives IEA better control



IEA StudyExpert: Development Stages

Pilot (in 2022)

- In one country (Germany)
- TIMSS 2023 Field Test questionnaires used online and offline (via USB sticks)
- Worked out well and will be repeated for the Main Data Collection

TALIS Field Test (in 2023)

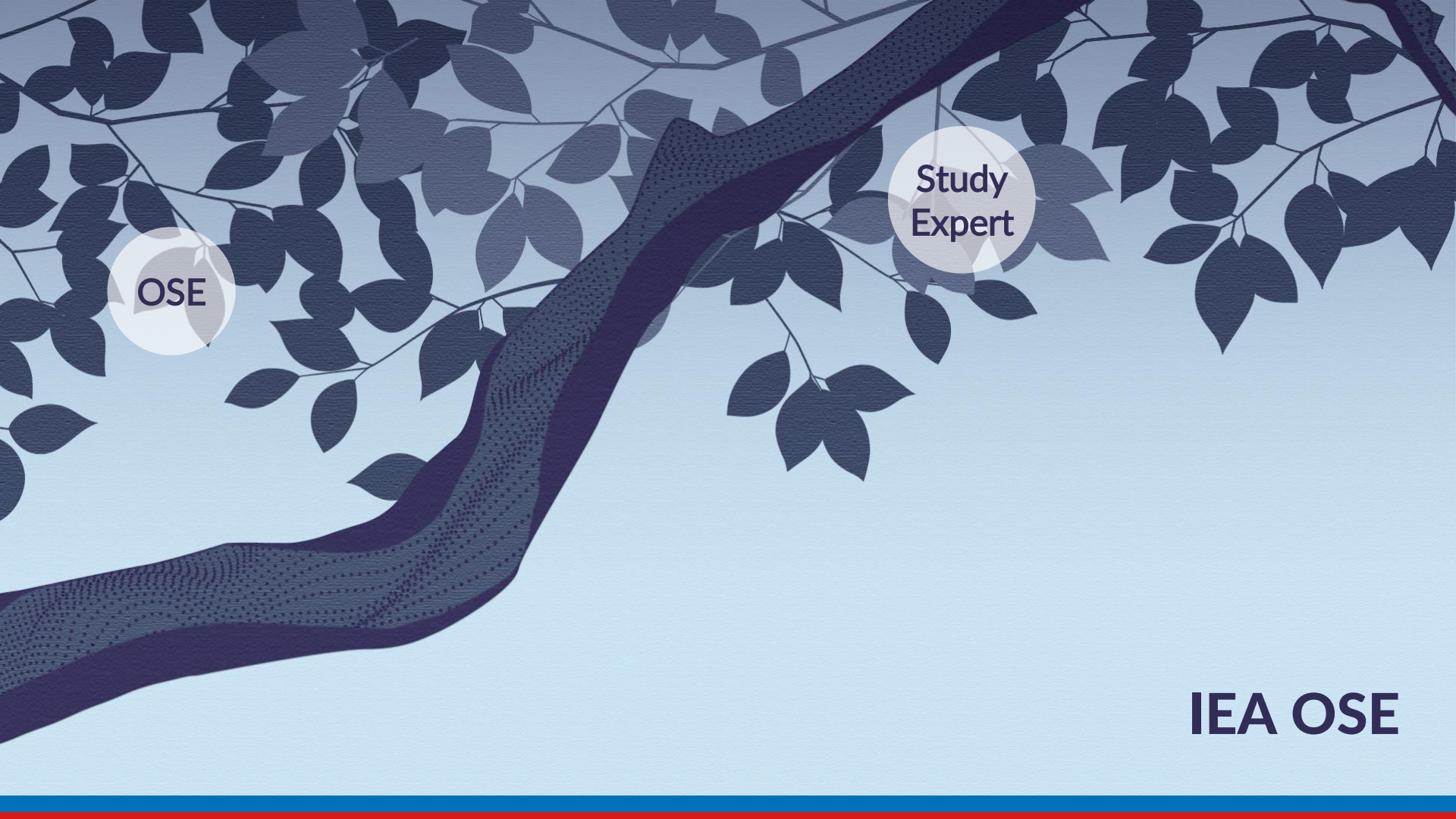
- For all TALIS countries and instruments (various types of questionnaires)
- Demanding period
- Worked well, no outages
- > 38,000 records collected

TALIS 2024 Main Survey (in 2024)

- For all TALIS countries and instruments (various types of questionnaires)
- Many improvements implemented
- Move to Amazon Cloud

Planning for ICCS, ICILS (in 2024, 2025, ...)

- Exchange between development team and Study Directors began
- Requirements gathering started
- Different possibilities under consideration

A stylized illustration of a tree branch with leaves, rendered in dark blue and purple tones against a light blue background. The branch curves from the bottom left towards the top right. Two circular callouts are present: one on the left containing the text 'OSE' and one on the right containing the text 'Study Expert'.

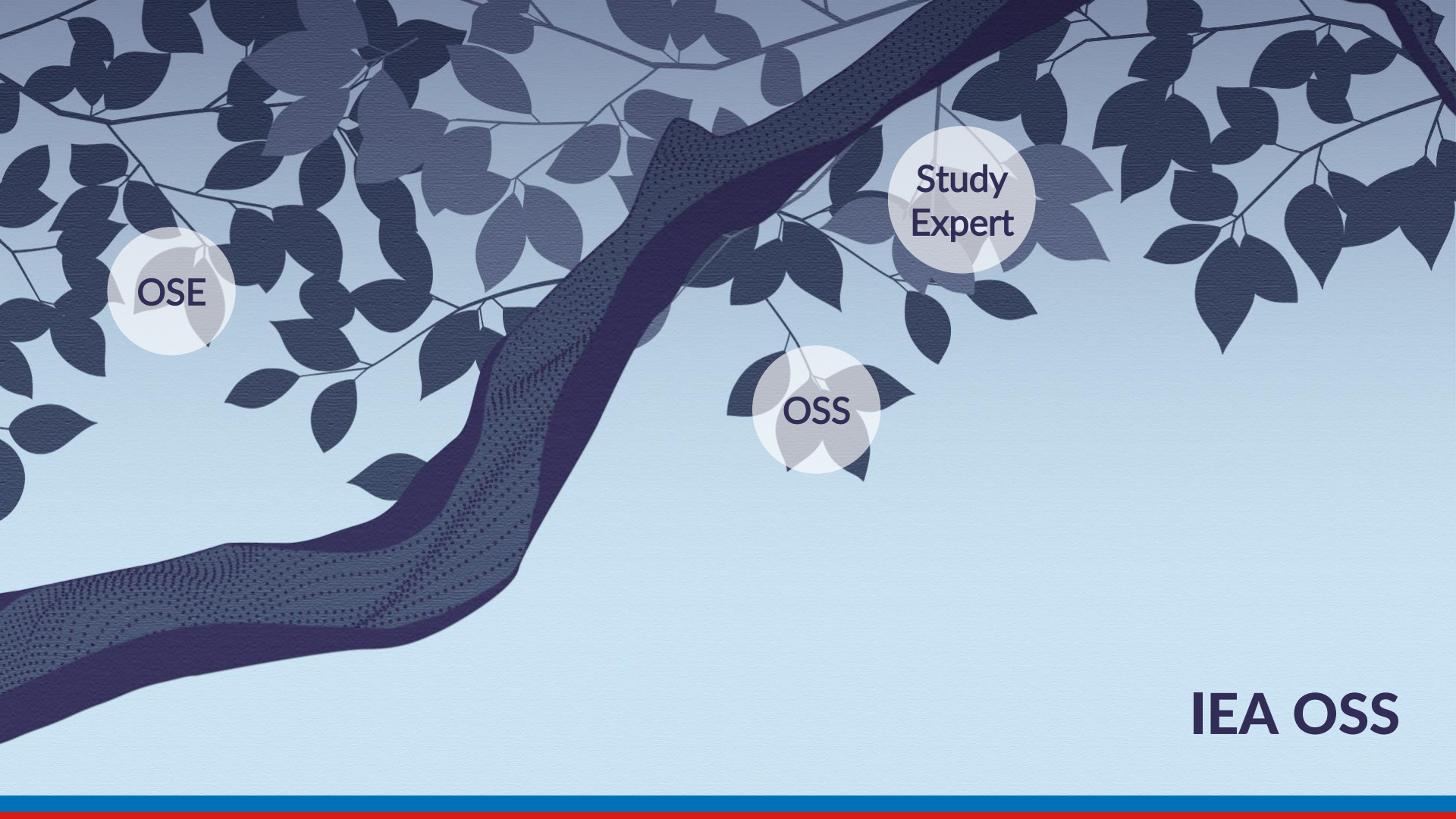
OSE

Study
Expert

IEA OSE

New IEA OSE

- IEA's Online Survey Expert (OSE) is a web-application used in national studies for listing information and preparing data collection at schools
 - Documents can be shared with persons on all levels in an addressable manner
 - School coordinators can submit information, this information can be retrieved through different interfaces
 - It samples classes, students
 - Linkages between students and teachers can be created via a visual interface using drag and drop
 - Complies with all German data protection regulations
- It is used by project coordinators in all German states
- First OSE was developed in 2013 and has been used in Germany since 2014—it has been completely revised and extended and was technologically updated
- Has a responsive interface, so it can be used on devices with different screen sizes, and user languages can be customized

An illustration of a dark, textured tree branch with many small, dark leaves against a light blue background. Three circular callouts are overlaid on the image: one on the left containing 'OSE', one in the center containing 'OSS', and one on the right containing 'Study Expert'.

OSE

Study
Expert

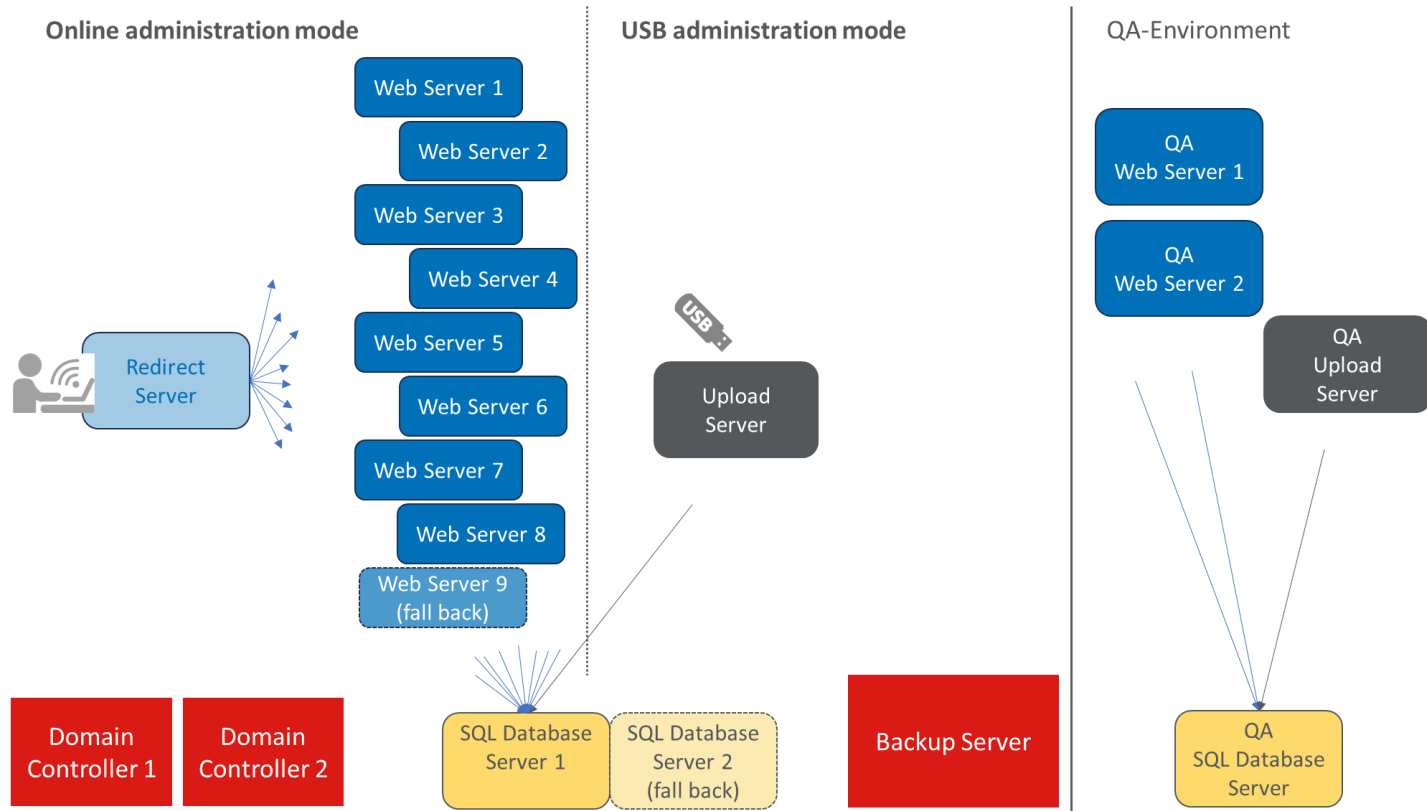
OSS

IEA OSS

IEA OSS

- IEA's Online SurveySystem (OSS) has been used in the past to administer questionnaires online, but only for adult questionnaires
- To reduce burden on RM, IEA decided to also administer student questionnaires in TIMSS 2023 using OSS
- However, this imposed challenges as a large number of students would be accessing the questionnaire at the same time
- To cope with a significant influx of users at any one time, an extension of the server infrastructure was required

IEA OSS-Server Setups (TIMSS 2023)





2023, Feb-Jun 2023)

Administration

USB administration

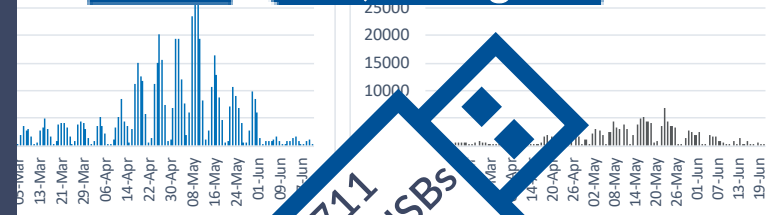
Month



(Feb-Jun

})

576,464 logins



out the day (per hour CET/

out the day (per hour CET/CEST)



136,711
uploaded USBs
by now

Data Security

- Server attacks are increasing
- IEA Hamburg has been hit
- Re-evaluate all server/ software update procedures
- Agreed on (more) regular maintenance windows
- Plan for external auditing





Study
Expert

OSE

AI

OSS

AI at IEA

AI at IEA (Hamburg & Amsterdam)

Discuss possible fields of applications of AI for IEA



Translations

Data processing

Improving texts

Scoring/
coding

Item development

Code for Software,
Scripts,
Macros

...

Discuss what needs to be **considered** when using AI at IEA

Copy-
rights

Which apps?
Which
providers?

Transparency

Data
protection

Clear
rules

Background
knowledge

Information
security

...

Guidelines for IEA staff



OSE

AI

OSS

Study
Expert

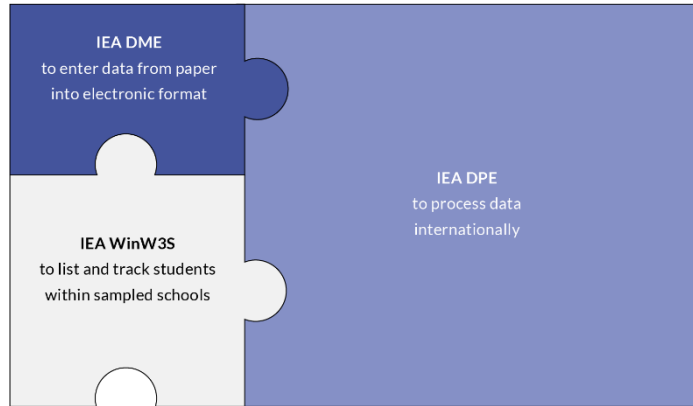
Data
Processing
2030

Data Processing 2030

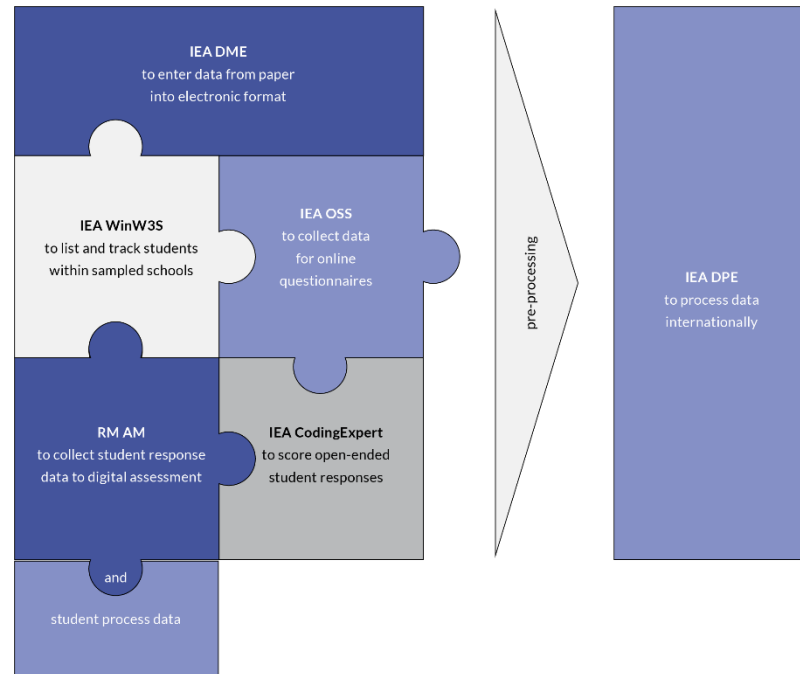
Data Processing 2030

- Number of data sources have increased since paper-times

Data sources in paper and pencil administrations



Data sources during transition from paper to digital assessments



IEA DME = IEA DataManagementExpert
IEA WinW3S = IEA Windows Within-school Sampling Software
IEA OSS = IEA OnlineSurveySystem
IEA DPE = IEA DataProcessingExpert
RM AM= RM Assessment Master

Data Processing 2030

- Types of problems that occurred during and after test administration change

Problem	Paper administration	Digital administration
Incomplete records	Misprints	Technical failure
Swapped records	Wrongly assigned assessment materials	Wrongly assigned assessment materials
Missing records	Instrument lost	Record lost (does not arrive at server, USB stick lost)
Duplicate records	n/a	Student login used twice
	n/a	Student started on one device, continued at another device
	Instrument entered twice	USB stick uploaded twice
Implausible values	Mispunched student answers	n/a
...	...	...

- Data processing needs to be adjusted accordingly

Thank you! Merci!

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Researching education, improving learning

