Use of Digitalization in Accreditation

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Overview of presentation

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- Use of digitalization by ILAC Secretariat
- Use of digitalization by ILAC Committees
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- Challenges
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Background

- ILAC is the global association for the accreditation of laboratories, inspection bodies, proficiency testing providers and reference material producers.
- ILAC facilitates trade via its worldwide mutual recognition arrangement – the ILAC Arrangement - among Accreditation Bodies.
- The data and test results issued by Conformity Assessment Bodies accredited by ILAC Accreditation Bodies, are accepted via this Arrangement.
- The ILAC Arrangement covers the areas of calibration (ISO/IEC 17025), testing (ISO/IEC 17025), medical testing (ISO 15189), inspection (ISO/IEC 17020), proficiency testing providers (ISO/IEC 17043) and reference material producers (ISO 17034).
- Technical barriers to trade are reduced, in support of realising the free-trade goal of “accredited once, accepted everywhere”.

Background continued

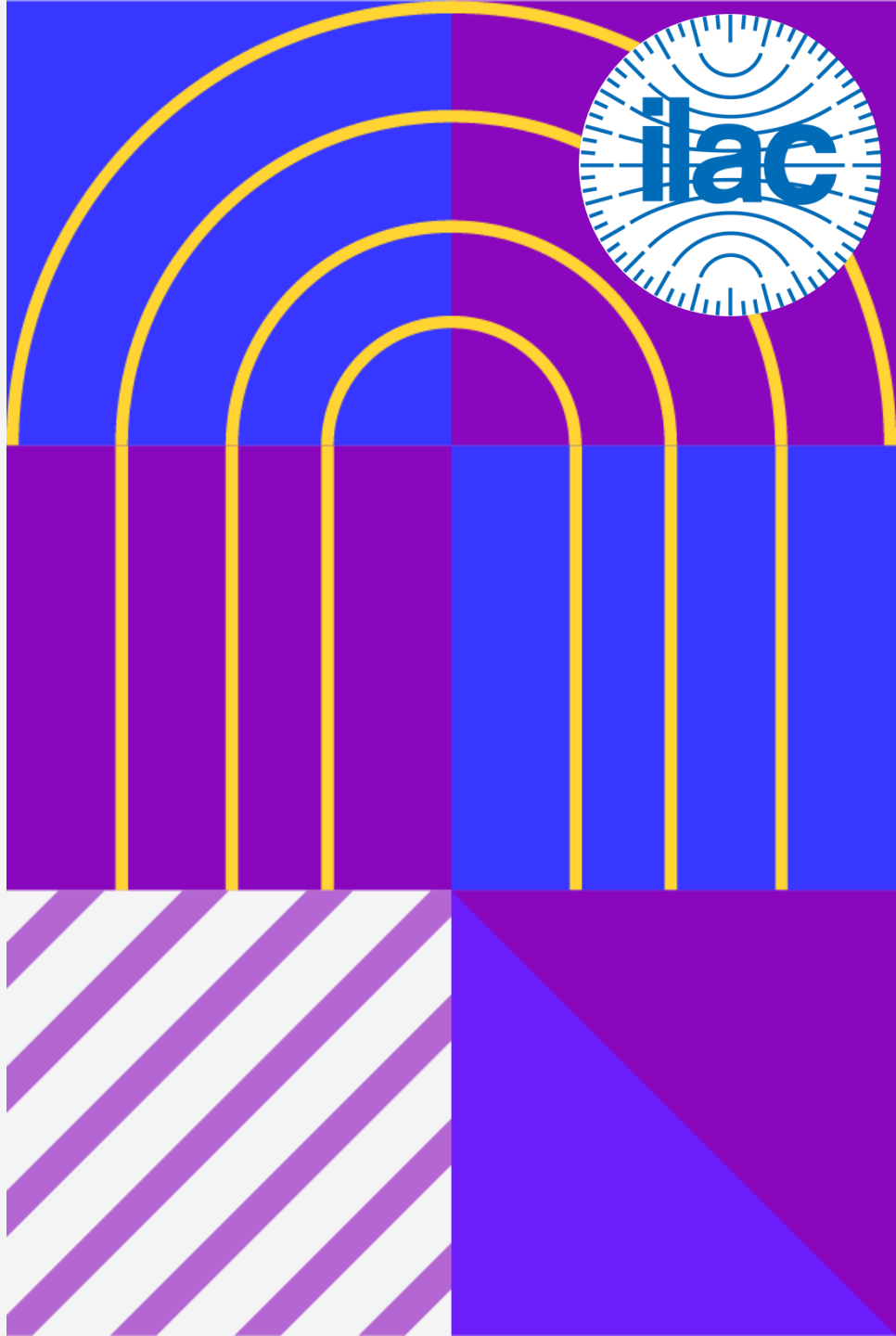
Coverage in ISO/IEC 17025

6.4.1 The laboratory shall have access to equipment (including, but not limited to, measuring instruments, software,…

7.8 (Reporting): NOTE 2 — Reports can be issued as hard copies or by electronic means, provided that the requirements of this document are met.

7.11 (Control of data and information management): …The laboratory information management system(s) used for the collection, processing, recording, reporting, storage or retrieval of data…shall be validated [*No "When used" in this clause*]

…NOTE 1 — In this document "laboratory information management system(s)"includes the management of data and information contained in both computerized and non-computerized systems.



Use of digitalization by Secretariat

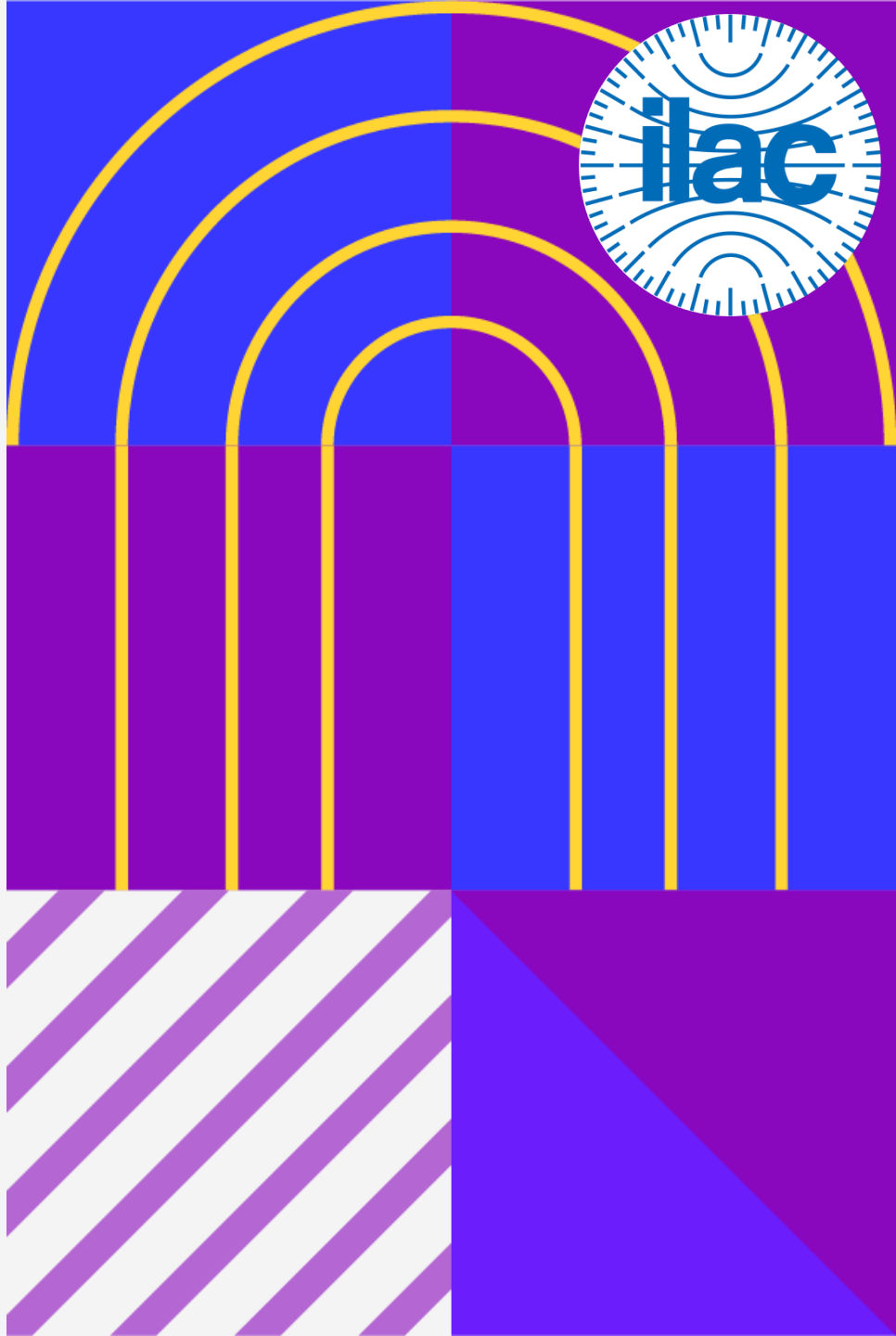
- ILAC Secretariat has implemented various digitalization processes/tools for operation of ILAC activities
  - *Use of cloud-based storage of documents and records*
  - *Electronic voting system on changes to ILAC documentation*
  - *Use of teleconferencing applications for holding virtual meetings*
  - *Use of shared folders for members to upload information related to the ILAC Mark*

Use of digitalization by Committees

- ILAC signed the Joint Statement of Intent on the digital transformation in the international scientific and quality infrastructure
- Accreditation Committee WG Metrology work on Digital Calibration Certificates
- ILAC liaison participated in the program committee for the 4th DCC Conference
- Inspection Committee Chair attended Workshop on Technology. Presentations on remote inspections, use of drones and impact of technology on inspection

Use of digitalization by Members

- Basic assessment technologies for remote assessment activities in response to COVID-19
- Mobile technologies are widely used
- Integrated IT systems and the cloud are widely used
- The adoption of technologies and digitalization of conformity assessment however continues to evolve rapidly



Use of digitalization by Members

- CABs are primarily using digitalization to optimize processes and improve efficiency
- CABs are offering new services in testing and inspection of software, etc. involving Artificial Intelligence
- Remote sensing techniques used in areas of environmental and hazardous conditions testing and monitoring
- An increasing number of CABs are piloting the use of digital technologies such as blockchain, use of robots, satellites, artificial intelligence, virtual reality, and big data analytics. Envisaged to be adopted over the medium term.

Use of digitalization by Members

Digitalisation of Conformance and Accreditation Processes based-on-ISO/IEC-Global-Data-Standards. Research paper by NATA, JAS-ANZ and GS1 Australia

- Use of digital authentication and tracking of certificates for management of product testing and certification to improve productivity. The benefits are listed as follows:
  - ***Data interoperability*** *- Capacity to identify information in a manner which is globally unique recognisable*
  - ***Smart data locking*** *– Digitalised data can be stored in discrete components, so different read-access rules can be set*
  - ***Guaranteed data integrity*** *– Standardised electronic processes for uniquely identifying conformity assessment documents*

Use of digitalization by Members

Digitalisation of Conformance and Accreditation Processes based-on-ISO/IEC-Global-Data-Standards. Research paper by NATA, JAS-ANZ and GS1 Australia

- ***Credentialing of conformity data providers*** – *Electronically tracking approvals issued by national Accreditation Bodies within digitised data flows. Authority of recognised conformity assessment bodies is automatically verified within supply chain data*
- ***Distributed trust, universal access*** – *Modern data systems enable coordinated access to data without need for centralised data storage*
- ***Digital linking conformity data to shipments*** – *Globally unique identification transparent linking of data to individual product shipments*

Challenges

As identified in the Research initiative QI-FoKuS: Survey on digitalisation in conformity assessment bodies

- Of the over 1,300 CABS surveyed many cited lack of financial resources and qualified personnel as main obstacles to digitalization
- Accreditation Infrastructure Providers need to critically examine the competencies, training needs and career pathways for conformity assessment professionals

Conclusion

- The progress so far in digitalization is gradually gaining momentum.
- ILAC representatives are involved at the national regions and international organizations with the aim of implementing digitization in the work processes while adhering to national and regional requirements.

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