



Update on progress towards Digital Transformation

22nd Meeting of the Directors of NMs and Member States
Representatives, 20 October 2023

Update

- 1. The CIPM TG and EG on the SI Digital Framework**
- 2. Forum on Metrology and Digitalization**
- 3. Draft agenda for the kick-off meeting of the Forum**
- 4. Draft agenda for the 1st meeting of the Forum**
- 5. The “Joint Statement Signatory Round Table”**
- 6. Updates from the BIPM-HQ and CCs**

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1. CIPM TG and EG on the SI Digital Framework

Milestones

- Establishing the TG and the EG in 2019
- Formulating the Grand Vision
- International Workshop on the SI Digital Framework
- Development the SI Digital Framework
- Signing the Joint Statement
- Resolution 2 of the 27th CGPM

1. CIPM TG and EG on the SI Digital Framework

- Signing the Joint Statement



ISO



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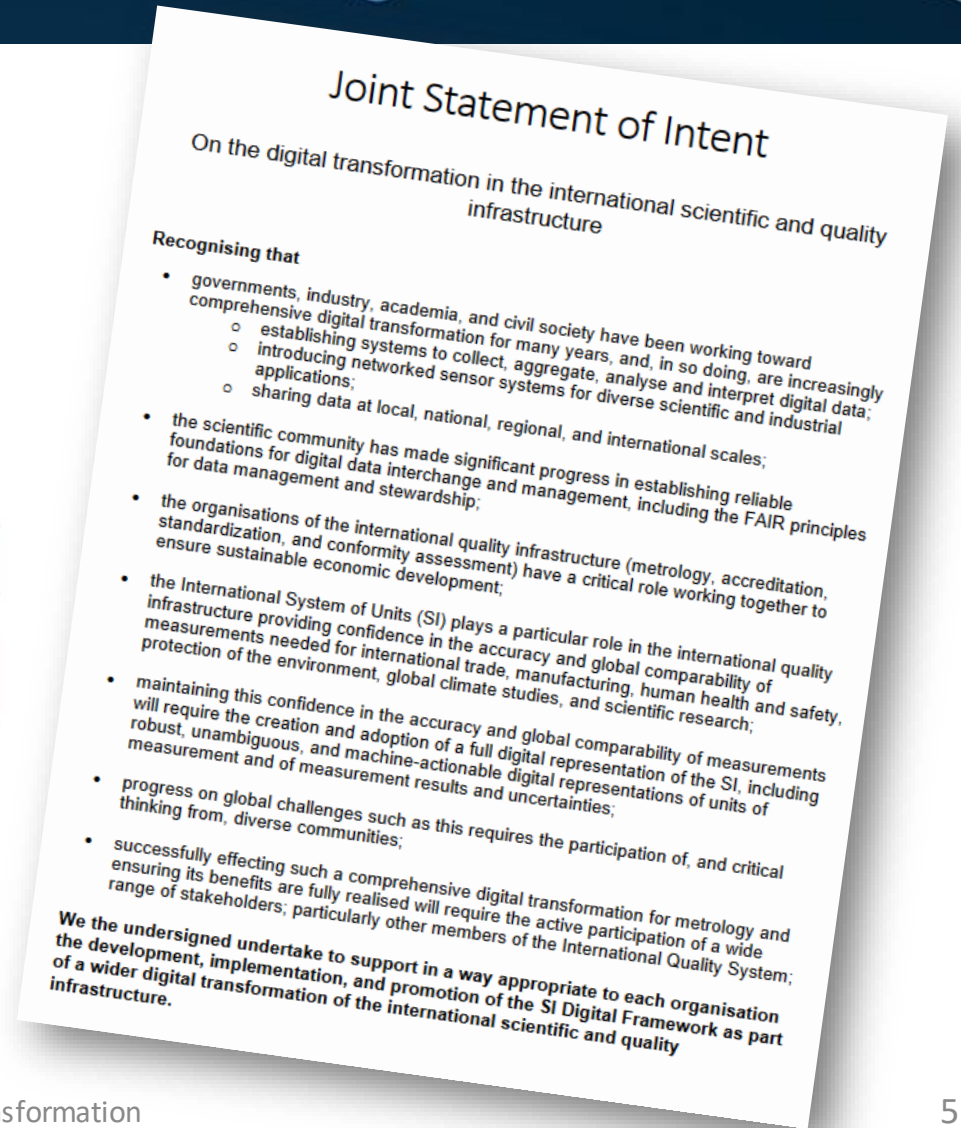


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1. CIPM TG and EG on the SI Digital Framework

Milestones



welcomes

- the recent efforts to articulate guiding principles for a digital transformation in metrology,
- the establishment of a flexible and inclusive governance structure supporting the development and implementation of that transformation,

Huge contributions by the Expert Group!!!

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2. Forum on Metrology and Digitalization

Decision CIPM/112-12

The CIPM approved the establishment of a forum on metrology in the digital world and noted the draft mission and structure proposed by the CIPM Task

Decision CIPM/112-25

The CIPM adopted “Forum on Metrology and Digitalization” as the name for the horizontal forum on digitalization. It adopted the mission and structure of the forum and approved the BIPM Headquarters’ updated workplan on digitalization for 2023 and 2024.

2. Forum on Metrology and Digitalization

Mission and Structure

To advise the CIPM on the SI Digital Framework and the wider implications of the global digital transformation for metrology and for the international Quality Infrastructure including:

- **the adoption of the FAIR principles** (Findable, Accessible, Interoperable, and Reusable) for digital metrological data and metadata, ensuring that other communities recognize the critical importance of metrological traceability for measurement data, the latter being an established requisite for building trust,
- **providing metrological input/thinking to increase confidence in areas impacted by the digital revolution including, but not limited to, examples such as:**
 - systems metrology
 - trusted AI
 - the reproducibility of research results,

2. Forum on Metrology and Digitalization

Mission and Structure

To harmonize internal processes related to digitalization between NMIs, CCs, RMOs, and BIPM headquarters.

To act as a forum to exchange information and to create synergies and opportunities for collaboration in this field, including, but not limited to, liaison with International QI Organizations, relevant International Organizations, international Science organizations, relevant industry associations, and further relevant stakeholders in digitalization.

Chair and Vice-Chair

Joachim Ullrich and Georgette Macdonald

2. Forum on Metrology and Digitalization

Members, Observers, Guests and Liaisons

Decision CIPM / 112-38

(note: the terms “Member”, “Guest”, “Liaison” are defined in the CIPM-D-01)

- 27 expression of interest: all are invited to participate as **Observers** to the Forum.
- 11 **Members** of the Forum according to the D-01 criteria
- Organizations from the international scientific and quality infrastructure, in particular Signatories of the JSI, will be invited to participate as **Liaisons** to the Forum

Guests:

- Digitalization Representative of the CCs
- Digitalization Representative of the RMOs
- Digitalization experts from other Organizations as needed.

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3. Kick-off meeting of the Forum

Draft Agenda

Tuesday, 21 November 2023 from 13h to 16h, online

1. Welcome to the Meeting (CIPM President, Forum Chair)
2. Approval of agenda
3. Introduction to the scope and mission of the Forum
4. Information on JSI Signatory Round-Table and joint activities
5. Introduction to new digital services at BIPM-HQ and in CCs
6. Priorities arising from the CIPM / BIPM questionnaires
7. Discussion on future actions of the Forum
8. Any other business

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4. Draft agenda: 1st meeting of the Forum

Meeting in person at the BIPM

Thursday 7 to Friday 8 March 2024

1. Opening of the meeting, approval of the agenda, appointment of the rapporteur
2. Invited talk
3. News from the CIPM and the BIPM
4. Forum Chair's report
5. Reports from the Consultative Committees on digitalization activities
6. Reports from the Regional Metrology Organization on digitalization activities
7. Reports from liaisons organizations on digitalization activities
8. Report on the Joint Statement Signatory Hub
9. Report from the BIPM-HQ on the BIPM Roadmap and execution status
 - 9.1 Roadmap
 - 9.2 SI Reference Point
10. Discussion on priority activities of the Forum
11. Discussion on Working and Task Groups
 - 11.1 which WGs and TGs are needed
 - 11.2 ToR and Members of the WGs and TGs
12. Forum Strategy
 - 12.1 First ideas from the ad-hoc WG Strategy
 - 12.2 Members of the WG-S
13. Review of members, observers and liaisons
14. Any other business
15. Date of the next Forum meeting

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5. The “JSI Signatories Round Table”



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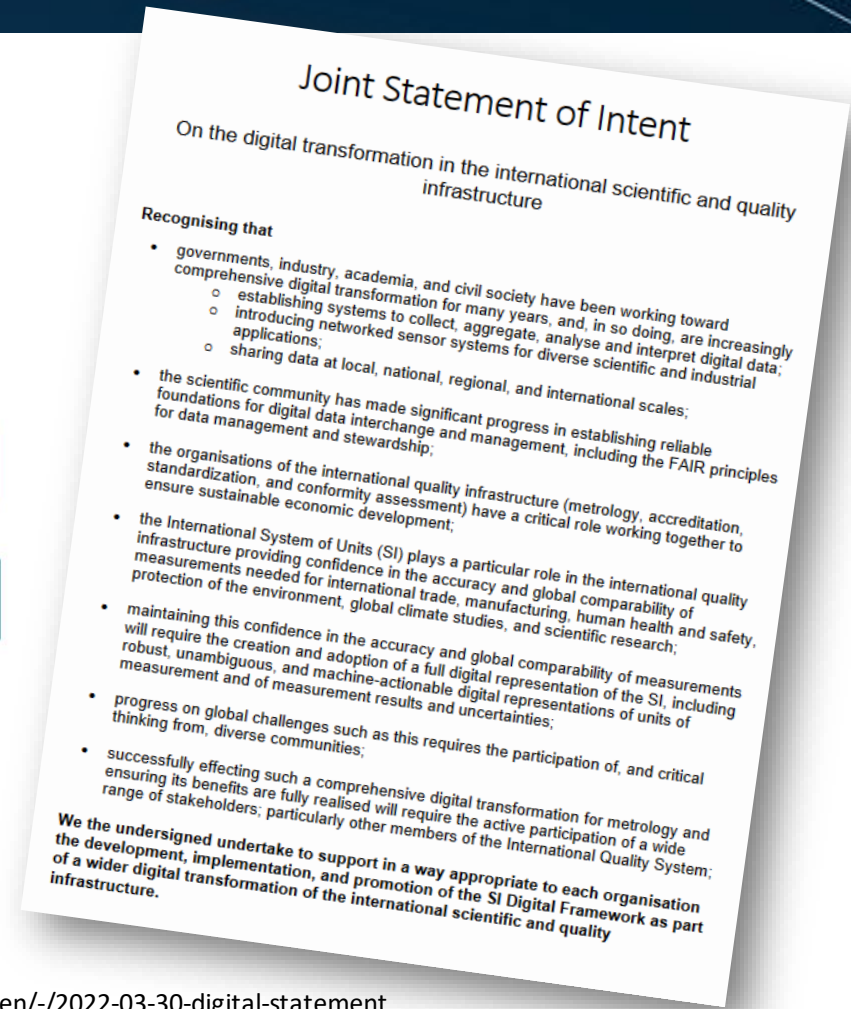


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<https://www.bipm.org/en/-/2022-03-30-digital-statement>

5. The “JSI Signatory Round Table”

International Conference, 5 and 6 March at the BIPM

“FAIR data in the Scientific and Quality Infrastructure”

Organization

- Hub kick-off meeting as first part, and conference as a means for presentations and public awareness of the Hub: 1 day kick-off meeting and 2 days conference
- International Scientific Committee with Members of the Hub
- Local Organization Committee (registration, conference platform, catering, technology)
- Free of charge (at least for Hub Members; potentially free of charge for all)
- Publication of presentations and contributions (e.g., on YouTube channel of the Hub)

Scope and Programme

- Only invited talks from JSI Signatories and associates
- No parallel sessions to ensure collaboration
- Each Hub Member can organize one session
- Joint sessions by Hub Members
- Poster session(s) possible

5. The “Joint Statement Signatory Hub”

Proposal for establishing a “JSI Signatory Round Table”

Vision

The Round Table fosters the collaboration and exchange between the Signatories of the Joint Statement of Intent (JSI) on the digital transformation in the international scientific and quality infrastructure. Its scope extends beyond metrology and covers cross-domain topics of relevance for the JSI Signatories.

Mission and purpose

The JSI Round Table serves as a platform between the Signatories to jointly develop, implement, and promote the digital transformation of the international scientific and quality infrastructure, in particular:

- FAIR principles for data and services in the scientific and quality infrastructures
- Digitalisation concepts along a common understanding of machine-actionable information
- Interoperable digital infrastructures for services and processes

Progress towards digital transformation

The SI will be the mother of FAIR: for humans and machines

Let's overcome the **Babylonian confusion** in the digital world

26th CGPM: International System of Units (SI) with 7 fundamental constants & base units

“Babylonian confusion of languages”:
thousands of different measurement standards
... and digital representations

27th CGPM: Resolution 2 On the global digital transformation and the International System of Units

Metre Convention
Human interoperable and comprehensible measurement data

Metre Convention
Machine interoperable and comprehensible measurement data

Progress towards digital transformation

Let's shape the **Quality Infrastructure** for the Digital Future

Make the Forum come alive!

Smart Health

Smart Factories

Smart Mobility

Smart Building

6. Updates from the BIPM-HQ and CCs

Martin Milton for Janet Miles from the BIPM- HQ

Prof. Andrew Lewis from NPL

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End