

India's strategies and activities in ICT standardisation

- Geopolitics of ICT Standardisation – Focus on India

Anupam Agrawal
IEC GRAC Member
Sr. Consultant, TCS
anupamagrawal.in@gmail.com

StandICT.eu Academy
27-May-2024

Let's look at the Standards Plate

TOTAL STANDARDIZATION					
Period	ISO	IEC	JTC 1	ITU	Total
Jan '22 - Mar '22	353	58	27	135	573
Apr'22 -Jun'22	246	30	28	34	338
Jul'22 - Sep'22	277	45	27	62	411
Oct'22 - Dec'22	244	40	29	96	409
Jan '23 - Mar-23	274	76	23	69	442
Total	1394	249	134	396	2173

ICT STANDARDIZATION					
Period	ISO	IEC	JTC 1	ITU	Total
Jan '22 - Mar '22	16	8	27	45	96
Apr'22 -Jun'22	18	0	28	10	56
Jul'22 - Sep'22	13	3	27	18	61
Oct'22 - Dec'22	13	1	29	20	63
Jan '23 - Mar-23	18	6	23	26	73
Total	78	18	134	119	349

Total Standards	1394	249	134	396	2173
------------------------	-------------	------------	------------	------------	-------------

❖ A Study of Total NWIPs proposed across ISO, IEC , JTC 1 & ITU in 5 Quarters and the NWIPs related to ICT (Excluding Core Telecom) was done.

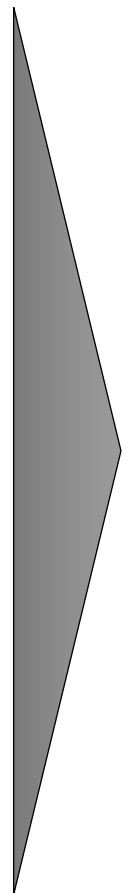
- JTC 1 is 6% of the total NWIPs proposed and on an average 26 NWIPs are proposed in JTC 1 every Quarter.
- Nearly 16% of the total NWIPs (2173) across ISO, IEC, JTC 1 & ITU relates to ICT Standardization.
- Consistently, relevant ICT standardization happening outside JTC 1 is ~60% (of which ~27% is happening in ISO/IEC Space & ~33% happening in ITU).

❖ Requires the academic interest to set in as in other countries.

Maturity of Participation in Standardization

- Levels & India Positioning

Maturity Levels	General Behavior
Influencer	<ul style="list-style-type: none">• Decide the strategic direction how standards should be build.• Positioned in important committees and leadership positions
Leader	<ul style="list-style-type: none">• Participation in standard setting activity is business critical• Drive the standard setting by putting in proposal of standard /group of standards
Contributor	<ul style="list-style-type: none">• Active participation in standardization process – Editors, Commentors, WG Members• Less interested in influencing the strategic direction of SSO
Follower	<ul style="list-style-type: none">• Full membership privileges wanted• Not interested in influencing the strategic direction
Spectator	<ul style="list-style-type: none">• Main motivation is intelligence gathering• No active contribution in creation of a standard



Current Engagement level in ICT standardisation for India is at the maturity level of **Influencer in certain areas and Leader/Contributor in certain areas**

In the IT (Information
Technology) Space

SC 7 – Software & Systems Engineering - under Indian stewardship from 2017

Scope : Standardization of processes, supporting tools and supporting technologies for the engineering of software products and systems.



← ISO/IEC JTC 1

ISO/IEC JTC 1/SC 7

Software and systems engineering

About

Secretariat: **BIS**

Committee Manager: **Ms Reena Garg**

Chairperson (until end 2023): Dr Sundeep Oberoi

ISO Technical Programme Manager [TPM]: **Mr Andrew Dryden**

ISO Editorial Manager [EM]: **Mrs Yvonne Chen**

Creation date: 1987

<https://www.iso.org/committee/45086.html>

Activities

1

Digital Engineering

- Resonates well with India's focus on Digital transformation
- India has significant experience with the engineering of complex physical systems
- Digital Engineering emphasis Semantic domains
- Opportunity to be early mover in this space

2

Digitally Delivered Services

- What is that you are giving to customers and charging money for?
- What is service defect in a digitally delivered service
- What are the requirements for service providers for grievance redressal?
- Ability to determine somebody is complying with what is being assumed as a service.

Activities

3

System Resilience

- Incorporating resilience into engineering requirements
- Resilience Process & Systems – Design Construction & Operational Practices
- Resilient Metrics
- Specifying Resilience requirements

4

Other Key Areas

- Artificial Intelligence – Explainable AI
- Green IT – Green Software
- AI Assisted Software Development
- Interoperable Clouds

At Scale Adoption Required for some...

Doc: LITD 14 (19326)
IS xxxxx : 2022

Indian Standard

**INFORMATION TECHNOLOGY –
Adequacy of Organizational Data Governance and
Management Practices**

भारतीय मानक

सूचान प्रौद्योगिकी – संगठन डेटा परिपक्वता ढांचा और मूल्यांकन
मॉडल

ICS 35.080

Ready for Publication – Can be one of the underlying standard for DPDP Act compliance

In the (Telecom) Space

Activities

5

6G

- **India should aim for 10% of all 6G patents and 1/6th contributions** – Honourable Shri Ashwini Vaishnav, MOC
- Bharat 6G Alliance & 6G Apex Council Setup
- Bharat 6G Vision Published
- Electronics Manufacturing ecosystem incentivised

6

Key Developments

- Various working groups constituted in India corresponding to International standardization organizations like ITU-T/ITU-R/ITU-D, 3GPP, IEEE etc.
- Collaboration of TEC, TSDSI, C-DOT, Department of Telecommunication, Sameer – Launch of Standards Coordination Portal. (<https://www.tec.gov.in/scp/>)
- SEP (Standards Essential Patents) – Disclosure is good. The mindset change required
- WTSA 2024 in New Delhi, India from 15th -24th October, 2024

In the (Internet) Space

Activities

7

DNS (Domain Name System)

Description	Global	India
No. of Root Servers	13	-
No. of Root Server Instances	1844	57
No. of Root Instance Sites	1498	41
No. of Countries present	176	-
No. of Cities Present	524	18

8

Key Developments

- There is a specific focus on DNS Independence in Europe.
- Initiatives like DNS0 are gaining momentum.
- Considering India's landscape and Internet Users, nearly 600+ instances are required.
- Similar experiments on localised DNS are happening which will be the key inputs for IETF.

Activities

9

Internet Measurement

Advanced Internet Operations Research in India (AIORI). <https://aiori.in>



10

Key Developments

- 5 DNS Anycast
- 100 Anchors
- Portal to run measurement.
- Supported by MeitY & NIXI. Infra to develop and test Internet protocols in live environment. Testbed for new standards on Internet Technology for IETF, W3C and others.'

Strategy

11

Focus Areas

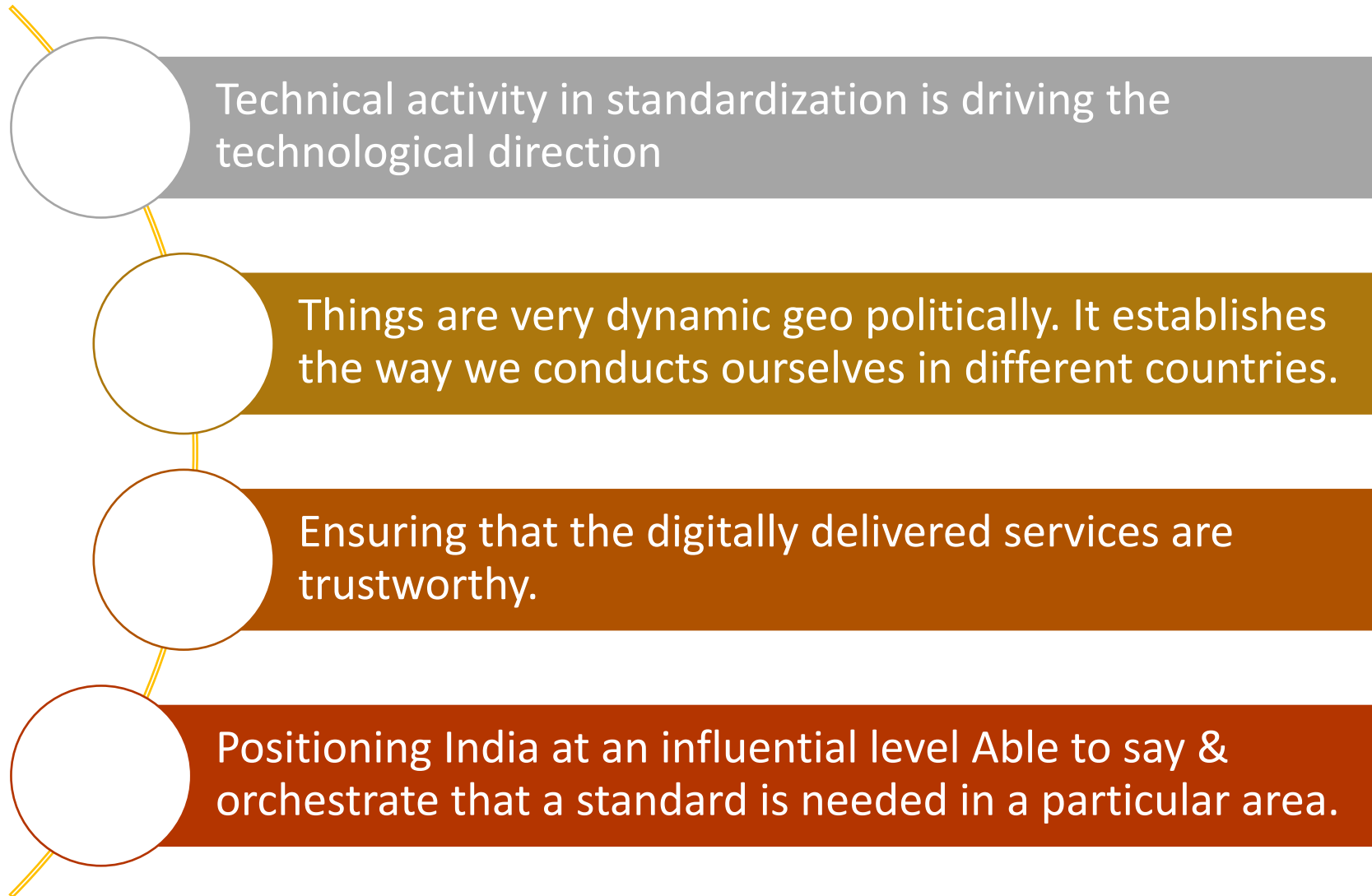
- Newer & Relevant Areas – Digital Engineering, 6G, DNS,
- Intersection of Horizontal & Vertical Standard Areas (IoT & Smart Cities, Healthcare & 3D Printing)
- Standards Essential Patents
- Encourage Assessment of Organization Maturity on Standards Adoption.

12

Recognition

- Standards Development is Heavily Engaged Process & Individuals matter.
- Incentivization of Contributors
- Standards is a Full time Job
- Bring in the Academic Backhaul.

Why should we care about this?





Thank You !!!