

Asia PKI International Symposium



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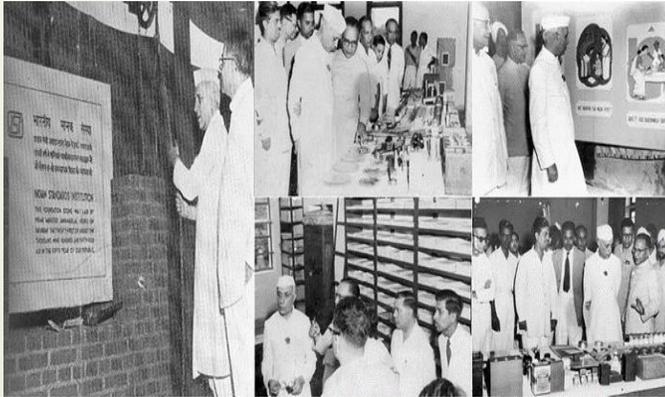
Borderless Digital Transactions: PKI's Role in a Globalized World

***Importance of Standardization and
Progress by BIS towards this on Digital
Signatures***

28 November 2023, Bengaluru

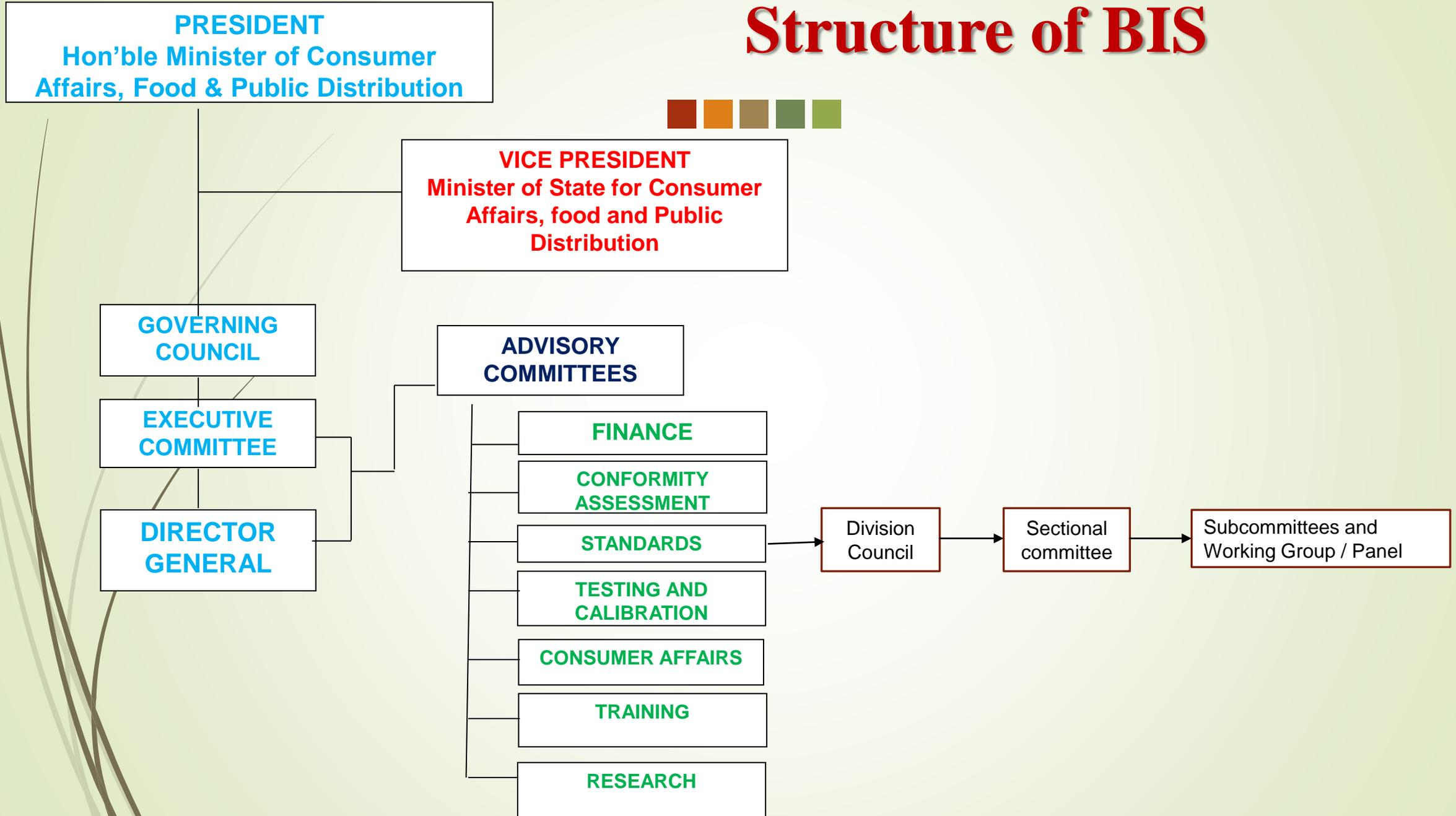
***Dharamsoth Santhosh
Scientist - C & Deputy Director
Service Sector Department
Bureau of Indian Standards***

About Bureau of Indian Standards



- Bureau of Indian Standards is the National Standards Body (NSB) of India under BIS Act 2016 passed by the Parliament of India.
- Established on 06 January 1947 as Indian Standard Institution (ISI).
- Dr Lal C. Verman, a eminent scientist, was the first Director of ISI.
- June 1947, ISI started functioning.
- 21 August 1954 – Prime Minister Pandit Jawaharlal Nehru laid the Foundation Stone of Manak Bhawan, ISI's HQ in New Delhi.
- 24 November 1958 – Inauguration of Manak Bhawan by Prime Minister.
- Shri Lal Bahadur Shastri, President of ISI at that time.
- India is founder member of ISO and IEC.

Structure of BIS



PRESENCE OF BIS

- Headquartered at New Delhi
- 5 Regional Offices
 Delhi (Central),
 Kolkata (Eastern),
 Chennai (Southern),
 Mumbai (Western) and
 Chandigarh (Northern).
- 38 Branch Offices. (*Bangalore Branch office at Peenya Industrial Area*)
- 8 Laboratories and 08 Referral Laboratories for Hallmarking.
- National Institute of Training for Standardization (NITS) at Noida.



Core Activities of BIS

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- **Standardization (Standards Formulation)**
- **Conformity Assessment**
 - **Product Certification**
 - **System Certification**
 - **Foreign Manufacturers Certification Scheme**
 - **Registration Scheme**
- **Hallmarking**
- **Laboratory**
- **Training**

STANDARDS FORMULATION

- ▶ BIS identified 16 sectors important to Indian industry and consumers.
- ▶ Structure comprises of Division Councils (16), Technical Committees (387), Sub-Committees (209) and Panels / Working Group (1058).
- ▶ More than 22,200 Indian Standards are in force as Product Specifications, Method of Test, Services standards, Systems Standards, Codes of Practices, Guidelines, Safety Standards, Terminology, Dimensions, etc.
- ▶ Indian Standards are general Voluntary in nature and in order to encourage the culture of quality products and services Govt. of India can make the standards mandatory by issuing QCI.

▶ BIS involvement in International Standardization

International Organization for Standardization (ISO)

P- member on 551 Technical Committees

O- member on 151 Technical Committees

International Electrotechnical Commission (IEC)

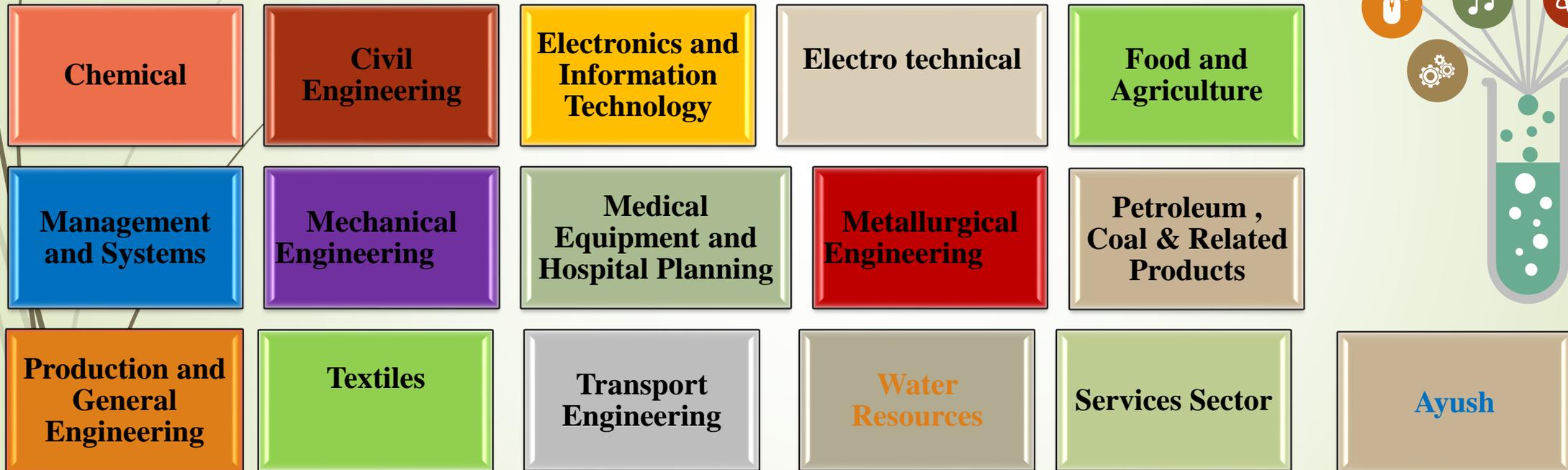
P- member on 119 Technical Committees

O-member on 55 Technical Committees

Technical Division Councils

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Standards are set through over 387 Technical Committees under 16 Division Councils



Importance of Standardization

What is Standards:

It is a document that defines technical or quality requirements with which current or future products, production processes, services or methods may comply

Standards are:

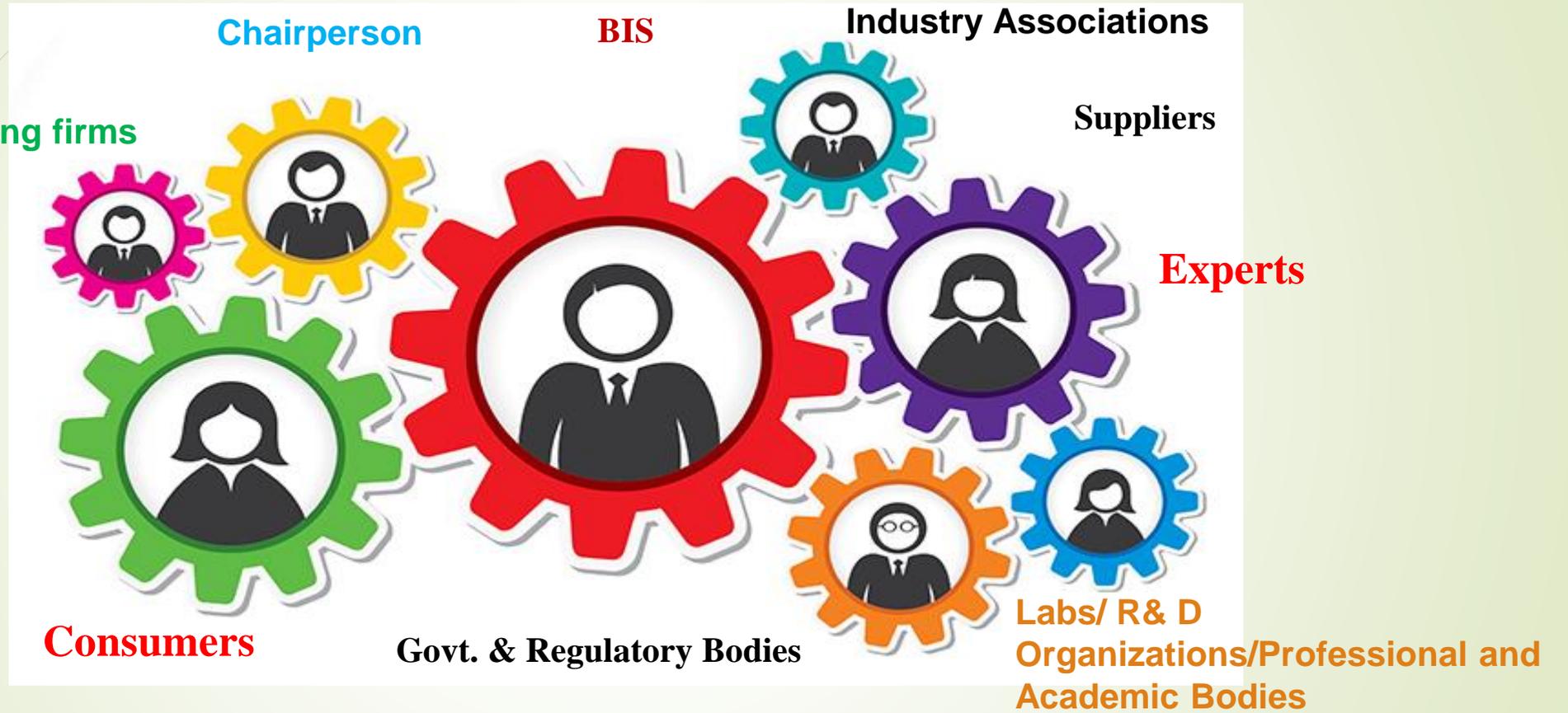
- Always voluntary & Consensus based
- Established by all interested parties
- Driven mainly by Industry & drafted by the technical experts
- Approved by a recognized, independent standardization body



Stakeholders

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PSU/Consulting firms



Consumer interest is always kept on the forefront while formulation of standards.

Consensus approach

Standards Formulation – Process and Stages

Development of Indian Standards



Standardization in Digital Signature Services

Standardization in Digital Signature Services

- ▶ Digital Signature Panel, SSD 10/P-4, under IT and IT enabled Services Sectional Committee, SSD 10, is responsible for formulation of Standards in the field of Digital Signature Services.
- ▶ **Convener** – Mr. Vijay Kumar, Senior Vice President, eMudhra
- ▶ **Co-convenor** – Mr. Dinesh Chand Sharma, Director, SESEI
- ▶ **Member Secretary** – Mr. Dharamsoth Santhosh, BIS
- ▶ Other organizations representing the panel are CCA, CDAC, CSIR-NPL, STQC, GLEIF India, IDRBT, Vindhya telelinks, ITI Pvt. Ltd, Zoho Corporation Pvt. Ltd, AAA Technologies Ltd, nCode Solutions, A3S Tech and Company, Yoganandh & Ram LLP, Sysman Computers.

Published Standards related to Digital Signature by BIS

Sl.no	IS Number	Title
1.	IS/ISO/IEC 14888-1 : 2008	Information technology - Security techniques - Digital signatures with appendix: Part 1 general
2.	IS/ISO/IEC 14888-2 : 2008	Information technology - Security techniques - digital signatures with appendix: Part 2 integer factorization based mechanisms
3.	IS/ISO/IEC 14888-3 : 2018	IT Security Techniques — Digital Signatures with Appendix Part 3 Discrete Logarithm Based Mechanisms
4.	IS/ISO/IEC 9796-2 : 2010	Information technology - Security techniques - Digital signature schemes giving message recovery: Part 2 integer factorization based mechanisms (First Revision)
5.	IS/ISO/IEC 9796-3 : 2006	Information technology - Security techniques - Digital signature schemes giving message recovery: Part 3 discrete logarithm based mechanisms
6.	IS/ISO 14533-3 : 2017	Processes data elements and documents in commerce industry and administration- Long term signature profiles- Part 3: Long term signature profiles for PDF Advanced Electronic Signatures PAdES

Current Ongoing Projects Under the Panel

Sl.no	Title	Status
1	Electronic Signatures and Infrastructures (ESI) – Policy and Security Requirements for Applications for Signature Creation and Signature Validation	Under Publication
2	Electronic Signatures and Infrastructure (ESI) – Procedures for Creation and Validation of AdES Digital Signatures – Part 1 : Creation and Validation	Under P-draft Circulation
3	Electronic Signatures and Infrastructures (ESI) - General Policy Requirements for Trust Service Providers (Based on ETSI EN 319 401)	Working Draft under preparation
4	Electronic Signatures and Infrastructures (ESI) — Cryptographic Suites (Based on ETSI TS 119 312)	Working Draft under preparation

Future Roadmap of the panel

- ▶ The panel has identified more than 30 subjects covering areas like **Application Providers, Secure Email and Long Term Preservation, Advanced Electronic Signatures for PDF, XML, CMS, JSON, Signature Devices and Protection Profiles, Cryptographic Suites and Algorithms, General Framework and standards, Trust Services list, status and providers** etc for standardization as a part of future roadmap of the panel.

Benefits of participating in standardization

- ▶ Influence the development of standards.
- ▶ Early access to industry trends.
- ▶ Insights into emerging technologies and opportunity to contribute.
- ▶ Informed decision-making.
- ▶ Building relationships with professionals.
- ▶ Collaborative opportunities and partnerships
- ▶ Exposure to technical, regulatory, and business knowledge.
- ▶ Understanding industry challenges and innovations.
- ▶ Staying informed about regulatory developments.
- ▶ Aligning with current and future standards to mitigate risks.

THANK YOU!