

## **Annexure 1: Detailed Session Proceeding**

### **Session 1: Plenary Session**

#### **Session Moderator**

- Mr. Dinesh Chand Sharma – SESEI Expert

#### **Welcome, Special & Keynote Address (Speakers)**

- Ms. Maive Rute, Deputy Director-General & Chief Standardization Officer, European Commission - DG GROW
- Mr. Laurent Le Danois, Team Leader Cooperation Section, Delegation of the European Union to India
- Mr. Chandan Bahl, Deputy Director General (IR&TISD, MSC and SCM), Bureau of Indian Standards
- Mr. Vineet Mathur, Joint Secretary, Ministry of Consumer Affairs
- Ms. Gunjan Dave, Member (Technology), DoT

#### **Vote of Thanks**

- Ms. Margot Dor, Director Government Affairs, ETSI

## Key Takeaways of the Addresses by the dignitaries in the Plenary Session

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**Mr. Dinesh Chand Sharma**  
Director - Standards & Public Policy EU Project SESEI

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- Introduction, objectives, and deliverables of Project SESEI.
  - Importance of sharing best practices and knowledge for collective gains.
  - Stressed on the importance of harmonization and adoption of standards.
  - Project SESEI is focussed on collaboration between India & EU on Digitization and Green & Clean technologies.
  - Imperatives of the study report being released and focus on gaps & challenges addressed in the study report.
  - Cooperation and stronger ties amongst India & EU are critical.
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**Ms. Maive RUTE**  
Deputy Director-General & Chief Standardisation Officer  
European Commission Directorate-General for Internal Market,  
Industry, Entrepreneurship and SMEs (GROW)

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- This is an event which is building on already well-established cooperation with India, particularly in the realm of standards. Its timing is opportune as discussions on the Free Trade Agreement (FTA) between the EU and India have recently been relaunched.
  - Standards play a key role in shaping our everyday experiences, this event underscores the shared commitment to fostering a well-established partnership in this domain.
  - Emphasizing the necessity of adopting international and harmonized standards, the conference aims to facilitate dialogue and cooperation on crucial aspects of our globalized world.
  - The conference focuses on three key areas i.e., Circular Economy, encompassing issues like e-waste and plastic; Connectivity in Smart Cities; and Cyber-security and Data Privacy. These themes align seamlessly with the recently launched EU-India Trade and Technology Council (TTC).
  - The conference provides an invaluable platform for experts to exchange perspectives and insights on these vital subjects.

Please [click here](#) to watch the welcome address delivered by Ms. Maive Rute.

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**Mr. Laurent le Danois**

Team Leader Cooperation Section

Delegation of the European Union to India & Bhutan

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- India remains the world's fastest-growing economy, driven by domestic demand and government initiatives.
  - India and the European Union (EU/EFTA) emerges as a transformative force, shaping the digitalization, energy, security realms. As India's ascent to technological prominence aligns with the EU's pursuit, an opportunity for cross-continental synergy unfolds.
  - EU and India are committed towards creating sustainable, safe, secure, digitally advanced economies, while ensuring environmental protection and efficient use of resources.
  - EU/EFTA and India have developed frameworks for clean energy, climate cooperation, and connectivity, which are evolving under the roadmap to 2025. These frameworks cover digital technologies, renewable energy, circular economy, and energy efficiency.
  - EU-India Trade and Technology Council (TTC) solidifies their strategic partnership, focusing on digital governance, clean energy, resilient value chains, trade, investment, and innovation for SDGs. Standards play a crucial role in these strategic technologies and sectors.
  - Many EU- India Project Instruments / Joint initiatives /Working Groups are already active and doing an excellent work such as Project SESEI, EU/EFTA-India Connectivity Partnership aligned with EU's Global Gateway, EU/EFTA-India Clean Energy and Climate Partnership, India Urban Partnership, Circular Economy & Resource Efficiency Initiative. India-EU/EFTA Cybersecurity Cooperation in data protection, cybercrime prevention, and critical infrastructure etc.
  - The conference navigates India-EU/EFTA collaboration in digital innovation, energy transition, data privacy, and security and explores shared challenges, innovative solutions, and potential impacts.
  - The collaboration between India & the EU/EFTA also presents a unique opportunity for shared learning and joint advancements. Recommendations and Key Takeaways include collaborative efforts across various applications, sharing best practices and experiences, and leveraging each other's technologies.
  - Look forward to a summary of action items for continued partnership and collaboration.
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**Mr. Chandan Bahl**

Deputy Director General (IR&TISD, MSC and SCM)  
Bureau of Indian Standards

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- There is a need to enhance collaboration between India and the European Union from a standardization perspective.
  - Standards play a pivotal role in driving global progress by reducing uncertainty and expediting innovation.
  - Economic growth is fostered through standards, serving as universal language for products and services, thereby facilitating international trade.
  - Standardization is one of the focal points in the discussions surrounding the EU-India Free Trade Agreement.
  - The Bureau of Indian Standards (BIS) has signed Memoranda of Understanding (MoU) with CEN-CENELEC and ETSI to identify gaps and synergies in their respective work.
  - BIS has various technical committees which are actively engaged in developing standards related to Circular Economy, Cybersecurity, and Smart Cities.
  - BIS is spearheading numerous projects at ISO/IEC levels.
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**Mr. Vineet Mathur**

Joint Secretary  
Ministry of Consumer Affairs

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- Along with Ministry of Electronics and Information Technology (MEITY), Ministry of Consumer Affairs is working on Standards for Single port charging system for laptops, tablets, and other electronic devices in the interest of consumer welfare and prevention of avoidable e-waste.
  - Ministry of Environment, Forest and Climate Change has also banned single use plastic items.
  - Bureau of Indian Standards (BIS) is aligning its standards with EU/International standards.
  - Various Ministries/Departments of the Government of India are issuing quality Control Orders (QCOs), to ensure the availability of quality products to consumers.
  - Department of Consumer is working with Ministry of Heavy Industry in the areas of EVs, EV batteries etc.
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**Ms. Gunjan Dave**  
Member (Technology)  
Department of Telecommunications (DoT)  
Ministry of Communications

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- India's mobile user base exceeds 1.14 billion, contributing significantly to the success of digital transformation.
  - India has become the fastest 5G rollout in the world after 5G deployments crossed the 4-lakh mark.
  - IoT have become imperative across sectors like manufacturing, agriculture, automobiles, and more.
  - Digital services lead to massive data generation, making data analytics crucial for strategic decision-making.
  - Technology and environment protection are paramount; innovation must align with eco-friendly practices.
  - Emerging technologies require updated devices; green technology can mitigate global warming effects.
  - Collaboration with industry, academia, and startups crucial for Telecom innovation and standards.
  - During the recently concluded IMC 2023, Prime minister awarded one hundred '5G Use Case Labs' to educational institutions across the country.
  - India focuses on next-generation Telecom tech, with initiatives in 6G, testing, and advanced optical networks.
  - Government of India released India's 6G Vision "Bharat 6G Vision" document on March 23, 2023, and formed "Bharat 6G alliance" which envisage India to be a front-line contributor in design, development, and deployment of 6G technology by 2030.
  - Bharat 6G Vision is based on principles of Affordability, Sustainability and Ubiquity.
  - International Telecommunication Union (ITU) has approved the 6G Vision Framework. India, through Department of Telecommunications, Ministry of Communications played a key role in framing the Framework.
  - For Standardization activities, DoT has set up fund for startups, focusing on R&D and creating standards for future technologies.
  - Collaboration between the EU and India is essential for advancing next-generation technologies in telecom, emphasizing areas of cooperation such as the Bharat 6G Alliance and Hexa-X Alliance for 6G standardization and related activities.
  - Need to adopt International and harmonized standards, particularly for 5G, 6G, IoT/M2M etc.
  - India is set to host the prestigious World Telecommunication Standardisation Assembly (WTSA) in 2024, marking a significant step towards the advancements of 5G and 6G networks.
  - Emerging technologies bring opportunities and challenges, necessitating involvement from governments, businesses, academia, and responsible innovation.
  - Standard developments are crucial to maximize benefits and minimize potential negative impacts of emerging technologies.

**Vote of Thanks:**

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**Ms. Margot Dor**  
Director Government Affairs  
ETSI

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- Emphasized the need to collaborate on standards & extended sincere thanks for delegates and participating organisations.

## **Session 1: Director General & Industry Dialogue**

### **Session Moderator**

- Mr. Dinesh Chand Sharma – SESEI Expert

### **Welcome Address (Speakers)**

- **Mr. Olivier Peyrat**, Director General of AFNOR, CEN Vice-President Policy
- **Mr. Luis Jorge Romero Saro**, Director General ETSI
- **Mr Henri Gétaz**, Secretary-General of European Free Trade Agreement

### **Industry Address (Speakers)**

- **Mr. Vipin Sahni**, Executive Director, CII- Institute of Quality
- **Mr. N Mohanram**, Director General, TSDSI
- **Mr. T. V. Ramachandran**, President Broadband India Forum

### **Special Address (Speakers)**

- **Mr. Girish Sethi**, Director TERI
- **Mr. R.K. Upadhyay**, Chief Executive Officer, CDoT
- **Mr. G. Narendra Nath**, Joint Secretary NSCS, National Security Council Secretariat

### **Vote of Thanks**

- **Mr. Shashi Dharan**, Managing Director Bharat Exhibitions

## Key Takeaways of the Addresses by the dignitaries in the Director General & Industry Dialogue

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**Mr. Dinesh Chand Sharma**

Director - Standards & Public Policy EU Project SESEI

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- One of the many important actors or players in the process of Policy Making and Development of Standards are the Standards development Organisation and the Industry including Associations, which develop, influence, and steer the need of the industry, national regulatory requirements, consumer requirement into standards development and policy making.
  - EU and India need to collaborate on these on these important topics.
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**Mr. Olivier Peyrat**

Director General of AFNOR, CEN Vice-President Policy

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- Rapid technological advancements are transforming our global landscape, necessitating a collaborative approach as we delve into the digital realm.
- It is crucial for Europe and India to collaborate on innovations in circular economy, smart city connectivity, and data privacy and cybersecurity to drive growth while safeguarding societal well-being.
- Standards play a pivotal role in facilitating these transitions and serve as a key bridge between Europe and India.
- The circular economy, particularly addressing E-Waste and plastics, is a shared challenge for both Europe and India due to the increasing reliance on technology. Standardization is essential for establishing consistent global standards in the sustainable management, recycling, and repurposing of E-Waste and Plastics.
- CEN-CENELEC are deeply committed to integrate circular economy in all aspects of European standards.
- CEN-CENELEC 2030 strategy focuses on the green transition, specifically in the plastic sector with publications like CEN technical report 17910 on “Biodegradable plastics”.



- CLC TC 111X on Environment deals with environmental aspects for electrical and electronic products and systems.
- Connectivity in smart cities, encompassing digital, energy and transportation, is pivotal for creating cohesive urban ecosystems. Standardization ensures interoperability, safety, and the effective realization of sustainable urban development goals.
  - CEN/TC 278 focuses on intelligent Transportation Systems improving the efficiency and safety of transportation.
  - CLC/TC 215 is responsible for standards for electrotechnical aspects of smart grids, ensuring seamless energy distribution and management.
- Data privacy and cybersecurity are paramount in the digital era.
  - CEN-CLC/JTC 13 'Cybersecurity and data protection' addresses cybersecurity and data privacy related aspects.
- CEN and CENELEC collaborate with ISO/IEC to adopt international standards as EU standards.
- The partnership between CEN, CENELEC, and BIS is crucial in addressing these immense challenges collaboratively.
  - A memorandum of understanding (MOU) signed b/w CEN-CENELEC and BIS to align efforts and achieving consistency.
- Collaborations at the ISO and IEC levels between European and Indian actors can make a significant difference, providing valuable contributions to global standardization.
- It is crucial to stay committed to the implementation of agreements and collaborations to ensure success in this endeavor.

Please [click here](#) to watch the welcome address delivered by Mr. Olivier Peyrat.



**Mr. Luis Jorge Romero Saro**  
Director General  
ETSI

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- The EU-India collaboration on standards and technologies is increasingly important, providing substance to various policy initiatives and dialogues. Examples include Free Trade Agreement negotiations, EU-India Strategic Partnership, EU-India Trade Technology Council addressing key technologies, and the EU-India Connectivity Partnership.
  - Interoperability, in all its forms, is crucial, emphasizing the need for common standards.
    - The collaboration between the EU and India has made significant strides in domains like accessibility, IoT, e-signatures, energy consumption rating, and cybersecurity for IoT devices.
  - Adoption of common global standards facilitates seamless trade and enhances collaboration in technology and standards development.
    - The collaboration with TSDSI, common partners in 3GPP and oneM2M, is noteworthy, advancing standards for 5G, 4G, and beyond.

- With oneM2M's adoption as national standards by TEC in India, benefiting initiatives like the Smart Cities Mission through IUDX and its special purpose vehicle.
- The work of ETSI TC on Environmental Engineering addresses environmental aspects for telecommunication infrastructures.
- Data privacy and cybersecurity, critical in today's landscape,
  - India's progress with the Data Privacy and Data Protection Bill aligned with GDPR.
  - ETSI TC on Cyber plays a crucial role in developing cybersecurity standards.
- Standardization communities should unite even more, especially when addressing global challenges for future generations.
- The SESEI project is building strong bridges between EU and IND standardization communities.

Please [click here](#) to watch the welcome address delivered by Mr. Luis Jorge Romero Saro.

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**Mr Henri Gétaz**  
Secretary-General  
European Free Trade Agreement (EFTA)

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- EFTA has built up an extensive network of free trade agreements with 41 countries and territories and is continuously seeking to extend this Network further including with India for over 40 years.
- EFTA promotes the use of common standards to eliminate technical barriers to trade and to facilitate trade in Goods.
- EFTA is a financial contributor to the European standardization system, supporting initiatives like the SESEI Project in India, reflecting its commitment to fostering collaborative efforts in standardization.
- Standards are of high importance as tools to ensure interoperability between systems to enhance product Safety and Security and to protect consumers as well as the environment
- In the realms of digitization and Green & Clean Technologies, standards play a vital role, providing essential support for policy initiatives in both Europe and India.
- Reflecting on the current year, notable progress has been made in free trade negotiations between India and EFTA, marking active engagement and cooperation.
- The EU and India are progressing toward an economic partnership agreement, reflecting a forward-looking approach to strengthened economic ties.
- The advanced cooperation between the EU and India in standardization matters is poised to unlock its full potential within the context of these enhanced trade relations between EU/EFTA and India, fostering greater collaboration and mutual benefit.

Please [click here](#) to watch the welcome address delivered by Mr Henri Gétaz.

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**Mr. Vipin Sahni**  
Executive Director  
CII- Institute of Quality

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- India and the EU should focus on strategic partnerships to contribute to human development within the framework of limited resources and sustainable options.
  - Make collaborative efforts to develop and Implement standards which have uniform applications across the globe
  - CII has been supporting the Indian industries through various initiatives and standards
  - Quality infrastructure remains the foundation of many activities in domains of Standards, Metrology, and Conformity Assessment & Accreditation etc.
  - CII is actively working on the theme and actions related around sustainable development goals with specific stress on digital and sustainability initiatives
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**Mr. N Mohanram**  
Director General  
TSDSI

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- TSDSI is recognized by Department of Telecommunications as India's telecom SDO.
- TSDSI works closely with global SDOs to reflect Indian requirements into global telecom/ICT standards
- TSDSI has transposed standards made in 3GPP and oneM2M which have been adopted by TEC as national standards in India
- TSDSI standards can directly contribute to ITU or also root its contributions to ITU by TEC as National contribution
- TSDSI has a cooperation agreement with ETSI to work together on Regional and international standardization with the goal of building an interoperable Global Information infrastructure
  - TSDSI recently adopted ETSI standards on IoT and NFV and is currently working on Mobile Edge Computing, IoT, and NFV related standards.

Please [click here](#) to watch the industry address delivered by Mr. N Mohanram.

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**Mr. Girish Sethi**

Director  
TERI

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- Energy is ubiquitous and crucial in various aspects, spanning themes like circular economy, smart cities, and data security.
  - In smart cities, connectivity involves digitization, energy, and transport, highlighting the pivotal role of energy.
  - Despite not being directly mentioned in the circular economy theme, energy is indirectly closely linked to circularity.
  - India aims to be a net-zero economy by 2070.
  - Commitment to triple renewable energy capacities by 2030 and reduce energy intensity by 45% compared to 2005 levels.
  - Standards and digitization play a crucial role in the integration of energy into urban systems.
  - The transition to green technologies, as highlighted by India's Green Hydrogen Mission, will create a significant demand for skilled manpower.
  - EU-India partnerships, particularly with countries like Germany, France, Denmark, and Sweden, can facilitate knowledge exchange and progress in energy and climate spaces.
  - Increased collaboration and harmonization of policies and standards between the EU and India are expected to have a positive economic and social impact in both regions.
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**Mr. T. V. Ramachandran**

President  
Broadband India Forum

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- The growth of India's digital economy, with 1.14 billion mobile connections, is attributed to the adoption of GSM standards.
- In 1992, 13 European countries collaborated to create interoperable digital standards (GSM) that India adopted in 1994, showcasing Indo-European collaboration.

- Highlighted India's progress in digital infrastructure, citing achievements like Digital Public Infrastructure (DPI), Aadhaar, and the India stack of 4G and 5G etc.
  - Need to increase focus on R&D to further advance digital capabilities.
  - Stresses the importance of global harmonization of standards, particularly in a price-sensitive market like India.
  - Identifies the need for industry collaboration on challenging technologies like AI, Blockchain, and Metaverse.
  - Recognizes the importance of collaboration with Europe and other countries for the advancement of standards and emerging technologies.
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**Mr. R.K. Upadhyay**  
Chief Executive Officer  
CDoT

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- The IoT market is expected to reach \$400 billion by 2026 and \$700 billion by 2030.
    - Standardization efforts, such as those by ETSI and oneM2M, are crucial for the growth of IoT networks.
  - Security is a critical aspect of IoT, and adherence to standards, like oneM2M, is essential for ensuring a secure infrastructure.
  - C-DOT has developed a mitigation platform called "Trinetra" to address cybersecurity threats, encompassing various security measures.
  - Collaboration with the EU, especially through ETSI frameworks, is essential for the development and proliferation of the IoT/M2M ecosystem in the country.
  - Along with adoption, implementation of global/harmonized standards is also necessary to overcome challenges such as entry barriers, high device costs, and vendor lock-in.
  - Acknowledgment of the importance of the Next Generation Services Interface - Dynamic Linked Data (NGSI-DLD) framework in sharing APIs easily.
  - Expressed interest in collaborating with the EU on NGSI-LD and F-MCS (Future Rail Mobile Communication System) standards.
  - Highlighted the need for further cooperation and collaboration between the EU and India in the field of ICT, including digitalization and 6G technology.



**Mr. G. Narendra Nath**  
Joint Secretary  
National Security Council Secretariat

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- Circular economy is beneficial for the economy, with lower energy requirements for processing compared to traditional methods.
    - Government initiatives like waste management rules, e-waste management, and battery management rules are in progress.
    - Extended Producer Responsibility (EPR) is a crucial concept, addressing historical ICT equipment challenges.
    - Increasing demand for critical minerals like lithium, cobalt, and nickel emphasizes the importance of secure access to these resources.
  - EU-India collaboration on extraction technologies is essential to maximize material recovery from e-waste.
  - Highlighted the need for standardized platforms, such as the Indian Urban Data Exchange (UDX), to facilitate data sharing across smart cities.
  - Highlighted the need for a Digital India Act in addition to GDPR compliance discussions.
    - Exchanging experiences and expertise on implementing GDPR compliance systems.

**Vote of Thanks:**



**Mr. Shashi Dharan**  
Managing Director  
Bharat Exhibitions

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## Session 2: Release and presentation of study report

### Presenters:

- **Mr. Souvik Bhattacharya**, Associate Director & Sr. Fellow, Resource Efficiency & Governance  
TERI
  - **Rakesh Malik**, Founder & Managing Director- Combine Ways
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**Mr. Souvik Bhattacharya**

Associate Director & Sr. Fellow, Resource Efficiency & Governance  
TERI

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The study report is structured uniformly into following four sections:

- I. Eco-System, Market Dynamics
  - II. Policy Initiatives & Standardization
  - III. Future potential, Gaps & Challenges
  - IV. Recommendations
- In the financial year 2022, more than 1.6 million metric tons of e-waste was generated in India, while European Union produces 4.7 million tons of electronic waste
  - In addition, India generates 3.5million tons plastic per annum and while EU generate 16 million tons plastic per annum
  - EEE waste is considered as one of the rich sources of secondary raw materials and can contribute towards resource security and environmental sustainability. Just like e-waste, Indian economy is also a major consumer of plastic polymers.
  - In the current times, some of the secondary applications of plastic waste in India are usage in road construction, waste-to-energy plants, waste-to-oil plants, and in cement plants for co-processing. However, these applications are largely limited in comparison to the volume of waste generated.
  - India and Europe are facing a significant challenge in managing e-waste and plastic waste
  - The report centers on identifying GAPS and CHALLENGES in the management of E-WASTE and Plastic waste in both Europe and India. It aims to offer recommendations to address these challenges and foster collaboration between the European Union and India.
  - The report provided details on key policy initiatives around Circular Economy (e-waste & Plastic) in India and Europe:
    - **India:** E-waste management rules, plastic waste management rules, Single Use Plastic waste management rules, Battery waste management rule 2022 etc.
    - **Europe:** EU WEEE regulations (Directive2012/19/EU), RoHS directive, EU Plastic Strategy 2018, EU's Circular Economy Package etc.

- The report also provided overview of Standardization work around e-waste and plastic in India and Europe
  - In India, Bureau of Indian Standards (BIS) through its Technical committees CHD 33, ETD 43 and PCD 12 is developing standards in the field of e-waste and plastic waste
  - In Europe, CEN and CENELEC technical committees CLC/TC 111X – Environment and CEN TC 249 on Plastics are developing relevant standards

Please [click here](#) for the copy of the report.

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**Rakesh Malik**  
Founder & Managing Director  
Combine Ways

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- The smart city market in India, valued at €5.92 billion in 2022, is poised for remarkable growth with an anticipated 25.2% CAGR from 2023 to 2031, targeting a valuation of €43.5 billion by 2031. Simultaneously, the EU/EFTA anticipates robust growth, with a projected market revenue of €23.31 billion in 2023 and an expected CAGR of 12.42% from 2023 to 2028, reaching €41.86 billion by 2028.
- Projects like Swachh Bharat Abhiyan and Smart Meter Lighting in India align seamlessly with EU/EFTA initiatives like Horizon 2020 Projects, fostering synergies that transcend geographical boundaries. The collaborative efforts extend to smart waste management R&D, joint development of IoT-enabled waste management, AI projects, and recycling initiatives
- The chapter highlighted key policy initiatives to promote smart cities/urbanization in both EU and India.
  - **India:** Data Smart Cities Strategy (DSC) (2015), Smart Cities Open Data Portal (2020), Data Maturity Assessment Framework (DMAF) (2019), City Data Policy (CDP), National Smart Grid Mission, Energy Conservation Building Code (ECBC) etc.
  - **Europe:** Living-in.EU Movement (2019), Interoperable Local Data Platforms, Data Space for Smart Communities Initiative (2022), Local Digital Twins (2022), Strategic Energy Plan (SET) and 'Clean Energy for All', Renewable Energy Directive etc.
- This chapter focuses on identifying GAPS and CHALLENGES in implementing smart technologies in smart cities in both Europe and India. Its goal is to provide recommendations for addressing these challenges and promoting collaboration between the European Union and India.
- The report also has a separate chapter focusing on Cyber security and Data Privacy
- This chapter focuses of key policy initiatives to promote cybersecurity ecosystem in India and Europe
  - **India:** Personal Data Protection Bill (2023); Digital India Initiative (2023); National Digital Health Mission (2020); National Cyber Security Strategy (2020); Cyber Swachhta Kendra (2017); National Cyber Security Policy (2013) etc.
  - **Europe:** ENISA (2023): Develops cybersecurity certification schemes; Cyber Solidarity Act (2023); Cyber Resilience Act (2022); NIS2 (2020); Cyber Security Act (2019) etc.



- This chapter also identified GAPS and CHALLENGES in cybersecurity and data privacy. It has provided recommendations for addressing these challenges and promoting collaboration between the European Union and India.
- Standardization efforts related to these topics have also been captured in this report.

Please [click here](#) for the copy of the report.

## **Parallel Sessions and Key Take Away**

### **Parallel Session I on: Circular Economy (e-Waste, Plastics)**

#### **Session 1: Presentations by European and Indian Subject Matter Experts**

##### **Keynote Address:**

- **Dr. Sandip Chatterjee**, Scientist G & Group Coordinator, Meity

##### **Moderator:**

- **Mr. Michael Bucki**, Counsellor & Head of Section – Sustainable Modernization, Delegation of the European Union to India

##### **Speakers:**

###### **India:**

- **Mr. Arun Agarwal**, Dy. Director General, DoT, Jammu, J&K, Ministry of Communications
- **Dr. Rachna Arora**, Team Leader, EU-REI
- **Sh. Ajay K. Lal**, Head (CHD), BIS
- **Dr. Aparna Dhawan**, Senior Counsellor, CII Institute of Quality

###### **Europe:**

- **Mr. Christian Dworak**, Chairperson of the European CEN-CENELEC SABE Circular Economy
- **Mr. Justin Wilkes** Executive Director, ECOS
- **Mr. William Neale**, Adviser on Circular Economy and Green Growth European Commission's Environment Directorate General

## **Key Take Aways from the presentation from the Speakers:**

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**Dr. Sandip Chatterjee**  
Scientist G & Group Coordinator,  
Meity, Government of India

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- During his keynote address, Mr. Chatterjee touched upon the key policy initiatives such as draft National Policy on Resource Efficiency 2019, Circular Economy Action Plan for EEE by MEITY, E-Waste Management Rules 2022 etc. that have been taken by Government of India to promote recycling/management of e-waste in the country.
- He also highlighted key action plan:
  - Design and other CE principles for electronics & electrical sector
  - Bring out a “Sustainable Product Policy”
  - Tracking SRM and encourage manufacturing to use them
  - Institutional arrangement to track critical materials
  - Set up material sampling labs to assess the SRM presence in products,
  - Upgrade informal sector to formal economy to boost collection & better segregation and enrich materials value
  - Create infrastructure, affordable technology, local machines to ensure RE in recycling
  - Incentivize manufacturers for recyclable design, SRM use in future products
  - Adopt internationally harmonized resource efficiency/circular economy.
  - Adopt international standards: EU’s CEN/CENELAC in entire value chain
  - Green Skill Development Programme,
  - Green public procurement (GPP) in-line with global frameworks & BPs.
- Highlighted some R&D work to develop cost effective Recycling Technologies
  - Centre of Excellence on E- Waste Management
- Highlighted EU's PROSUM as a benchmark for effective e-waste management.
- Action in progress:
  - Skill development of informal sector, repair centres etc.
  - Awareness programmes on e-waste management, RE/CE label to make consumers responsible towards product usage & safe disposal
  - Sustainable product policy to promote design for recyclable & longer lasting products
  - Adopt design for recyclability, disassembly, repair-ability and long lasting products
  - Incentive Structure for Manufacturer under PLI scheme
  - Incentive plans to promote best available technologies
  - Adoption of best practices i.e. Create value chain, Trading, Integration of SRM with global supply chain
  - Guidelines to promote Eco-design with global best practices,
  - Criteria for identifying products with best environmental performance

Please [click here](#) to access the presentation by Dr. Sandip Chatterjee.



**Mr. Michael Bucki**

Counsellor & Head of Section – Sustainable Modernization,  
Delegation of the European Union to India

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- The 60-year-old EU/EFTA-India relationship covers socio-economic issues, multilateralism, rules-based order, and security cooperation.
- India and EU/EFTA have developed frameworks for clean energy, climate cooperation, and connectivity under the "Roadmap to 2025," focusing on digital technologies, renewable energy, circular economy, and energy efficiency.
- Circular economy and resource efficiency were core themes at the recent G20 Summit, indicating heightened global recognition of their importance.
- India is the third-largest global consumer of raw materials, estimated to consume fifteen billion tonnes of material by 2030 with current economic trends.
- EU/EFTA has integrated circular economy into its industrial plan, with advanced waste management but facing challenges, especially in the fast-growing e-waste stream.
- India faces challenges in managing plastic waste due to its large population and growing economy, estimating a loss of over €125.02 billion of plastic material over the next decade.
- Despite being one of the highest plastic recyclers globally, only 10% of plastic in EU/EFTA is recycled, prompting stricter regulations.
- There is an urgent need for the adoption and implementation of circular economy principles in the e-waste and plastic sectors in both India and EU/EFTA.
- European Standards Organisation (CENELEC) has established comprehensive standards for e-waste and plastic waste management, while the ProSUM project serves as a knowledge center. ETSI TC Environmental Engineering has developed standards for telecommunication infrastructures.
- Similarly, introduction of EPR under E-waste and Plastic waste rules has been a game-changer in India, shifting the responsibility of waste to producers.
- Various partnerships and initiatives, such as the EU/EFTA-India Clean Energy and Climate Partnership, aim to enhance knowledge sharing, strengthen dialogues, and promote joint research and innovation in resource efficiency, energy efficiency, and circular economy.
- To strengthen circular economic principles, collaborative efforts should be prioritized, utilizing existing partnership instruments between EU/EFTA and India.



**Mr. Arun Agarwal**  
Dy. Director General  
DoT, Jammu, J&K, Ministry of Communication

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- Telecom Sector is rapidly growing in India.
  - A circular economy for the telecom sector can help to reduce environmental impact, reduce costs, and improve customer satisfaction.
  - Keeping in view that circular economy model of sustainable development is the Way Forward:
    - Government of India formed 11 committees, including Electronics and Electrical sectors, in March 2021 to transition from a Linear Economy to a Circular Economy.
    - Department of Telecommunications is formulating a "Vision, Strategy, and Action Plan for Circular Economy in Telecom Sector."
  - Circular Economy aspects as per ITU-T include re-manufacturability, upgradability, recoverability, recyclability, refurbishability, reusability, durability, and repairability.
  - The Vision-2030 for Circular Economy in Telecom(draft) aligned with ITU's Connect-2030 Agenda, aims to achieve Sustainable Development Goals (SDGs), including SDG 8, 9, 11, 12, and 13.
  - Recommendations for Circular Transition:
    - Policies and incentives for promoting secondary resources.
    - Regulations and implementation for evolving telecom waste landscape.
    - Incentivizing circularity under various schemes like DCIS, PPP, MII, PLI, and TTDF.
    - Sustainable public procurement and development of sharing platforms.
    - Promotion of Product as a Service (PaaS).
    - Support for refurbishment, reuse, takeback systems, and extended producer responsibility (EPR).
    - Resource efficiency across the telecom value chain.
    - Adoption of renewable energy and energy-efficient technologies.
    - Advancements in recycling technologies.
    - Capacity building, awareness, monitoring, and tracking
    - Establishment of an enabling institutional framework.
  - Emphasis on strengthening partnerships and collaborations across the telecom value chain for collective efforts in mainstreaming circular practices through skill development, capacity building, and awareness generation.
  - Under the presidency of India, the G20 New Delhi Leaders' Declaration in September 2023 outlines a clear vision and commitment to cooperative efforts for the future of the planet.

Please [click here](#) to access the presentation by Mr. Arun Agarwal.

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**Dr. Rachna Arora**  
Team Leader  
EU-REI

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- Highlighted EU-India Joint Declaration on Resource Efficiency and Circular Economy, July 2020
    - This aims to support and strengthen, dialogue and cooperation in CE/RE, including technologies, business solutions and financing mechanisms for enabling Resource Efficiency (RE) and Circular Economy (CE).
  - The Draft National Resource Efficiency Policy (NREP) 2019 envisions a future with environmentally sustainable and equitable economic growth, resource security, healthy environment (air, water, and land), and restored ecosystems with rich ecology and biodiversity.
    - The draft policy is guided by the principles of (i) reduction in primary resource consumption to 'sustainable' levels, (ii) creation of higher value with less material through resource efficient and circular approaches, (iii) waste minimization, (iv) material security, and creation of employment opportunities and business models beneficial to the cause of environment protection and restoration.
  - NITI also prepared a strategy paper, along with the EU delegation to India, on 'Resource Efficiency', and four more on resource efficiency in the sectors of steel (with the Ministry of Steel), aluminium (with the Ministry of Mines), construction and demolition (with the Ministry of Housing and Urban Affairs) and e-waste (with the Ministry of Electronics and Information Technology).
  - To promote local manufacturing in India, the harmonization of domestic standards in the circular economy is essential.

Please [click here](#) to access the presentation by Dr, Rachna Arora.



**Sh. Ajay K. Lal**  
Head (CHD)  
BIS

- Indian industries need to review existing practices adopted internationally within the circular economy sector and examine the current landscape of policies and regulations that governs this domain.
- Organization of Webinars, Seminars, Conferences to spread awareness and to gather more inputs from the stakeholders.
- Idea exchange forums such as Indo-German Quality Infrastructure Working Group also as a tool to get feedback from other countries and NSB's.
- Within BIS, technical committee CHD 34 on Environmental Management is formulating Indian standards in the field of environment management tools and systems.
  - Mirror technical committee of ISO/TC 323 Circular Economy, ISO/TC 207 Environmental Management, ISO/TC 265 CO2 Capture, transportation, and geological storage
- BIS Technical committee ETD 43 (Standardization of Environmental Aspects for Electrical and Electronic Products) has also developed some standards for e-Waste.
- BIS TC PCD 12 has published IS 14534: 2023 Plastics — Recovery and Recycling of Plastics Waste — Guidelines and IS 14535: 1998 for Recycled plastics for the manufacturing of products - Designation.
- The focus areas identified by NITI Aayog to support the Circular Economy include:
  - Scrap Metal (Ferrous and Non-Ferrous)
  - Li-ion Batteries
  - Tyre and Rubber Recycling
  - Gypsum
  - End-of-life Vehicles (ELVs)
  - Electronic Waste
  - Toxic and Hazardous Industrial Waste
  - Municipal Solid and Liquid Waste
  - Agriculture Waste
  - Used Oil Waste (generated from tools and machines)
  - Solar Panels
- Key challenges in this field include a shortage of experts, limited presence of academic and research institutions, insufficient awareness among industry stakeholders, absence of global standards for guidance, and trade-related issues.

Please [click here](#) to access the presentation by Mr. Ajay K. Lal.



**Dr. Aparna Dhawan**  
Senior Counsellor  
CII Institute of Quality

- 
- We are undergoing a shift from a linear economy to a circular economy.
  - India, through the Bureau of Indian Standards (BIS), has been actively working on incorporating/adopting international standards to facilitate this transition from a linear to a circular economy.

- In 2022, amendments were made to the Energy Conservation Act which allows the government to provide for a carbon-trading scheme and specifies an energy conservation code for large commercial and other buildings. It also establishes and regulates the powers of the central and state governments to facilitate and enforce efficient use of energy and its conservation through prescribed norms and standards.
- Government has also taken various steps such as the National Resource Efficiency Policy and the National Electric Mobility Mission to promote sustainable practices, enhance resource efficiency, and propel the adoption of electric vehicles, contributing to the overall goal of transitioning towards a more circular and eco-friendlier economic model.
- The EU and India must collaborate on establishing common standards in the field of the Circular Economy, fostering the exchange of best practices, expertise, and other relevant insights.
  - This partnership will contribute to the development of a shared framework that aligns with international sustainability goals, promoting a more effective and cohesive approach to circular economic practices between the two regions.

Please [click here](#) to access the presentation by Dr. Aparna Dhawan.

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**Mr. Christian Dworak**

Chairperson of the European CEN-CENELEC SABE Circular Economy Topic Group

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- Mr. Christian highlighted the work of Strategic Advisory Body on Environment of CEN and CENELEC (SABE)
  - Its function is to promote and monitor the incorporation of environmental aspects into the work of CEN, whilst also providing the CEN/BT with forward-looking strategic advice on how the environmental challenges of the future might best be addressed through the medium of standards making.
  - The latest activities of the Circular Economy Topic Group of SABE:
    - The Circular Economy Topic Group (CE-TG) of SABE was set up to provide a faster and more coordinated response to the horizontal and cross-sectorial standardization needs related to the European Circular Economy-related initiatives.
    - Identifying and discussing strategic standardization issues and needs related to Circular Economy within CEN and CENELEC and their coordination with other standard organisations.
    - Supports SABE in advising the CEN and CENELEC Technical Boards on standardization priorities, for instance in support of the implementation of the Circular Economy Action Plan.
    - Mapping ongoing standardization initiatives and standardization needs related to the activities and policies such as the Circular Economy Action Plan (CEAP) and the European Green Deal.

- Standardization plays a key role at every milestone of the implementation of Circular Economy related policies and support the change that benefits the environment and society.
- Standards can be used, for instance, to universally define key terms such as ‘repairability’ and ‘product durability.’
  - For example, several standards provide details on how to collect, transport, sort and treat waste of electrical and electronic equipment (WEEE) (EN 50625 series, EN 50614)
  - Material efficiency aspects for energy-related products are already available (e.g. EN 45555, EN 45556, etc.) extending product lifetime, ability to reuse components or recycle materials from products at end-of-life, use of reused components and/or recycled materials in product
- Highlighted the overview of Circular Economy related TC at international and European level.

Please [click here](#) to access the presentation by Mr. Christian Dworak.



**Mr. Justin Wilkes**  
Executive Director  
ECOS

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- Overview of ECOS (Environmental Coalition on Standards)
  - Electronic products and batteries are the instruments of a fair digital transition.
  - EU policy landscape
    - **Product policies:** Ecodesign for Sustainable Products Regulation, Batteries Regulation, Ecodesign and Energy Labelling Working Plan 2022-2024, Directive on the legal protection of designs, Common charger initiative (Radio Equipment Directive + ED&EL on External Power Supplies), Methodology for Ecodesign of Energy Related Products (MEErP), Product Environmental Footprint
    - **Consumer rights:** Empowering Consumers for the Green Transition, Sustainable consumption of goods – promoting repair and reuse
    - **Hazardous substances:** Restriction on Hazardous Substances (RoHS), REACH
    - **Waste management:** WEEE directive, Waste shipment
    - **Others:** Cyber resilience act, ICT Task force study (JRC), Digitalising the energy system – EU Action plan, Taxonomy, Critical Raw Materials Act
  - Standards and laws are still insufficient for e-waste.
  - European Standard Developing Organizations i.e., CEN, CENELEC and ETSI through various technical committees have been developing standards in these areas.
    - **Batteries:** CEN/TC21X
    - **Horizontal material efficiency:** CEN-CLC/JTC10 and CLC/TC59X
    - **Electronics:** CLC TC100X and CLC/TC22X
    - **Household appliances:** CLC/TC59X/WG1-18
    - **Smart appliances:** CLC/TC59X/WG7
    - **WEEE:** CLC/TC 111X



- **Electronics:** CEN-CLC-ETSI JCG-GDT
- **CEN-CLC EMCG**
- **CEN-CENELEC-ECO-CG**
- **Electronics:** ETSI EE EEPS
- ECOS participates in drafting of material efficiency standards for energy related products.

Please [click here](#) to access the presentation by Mr. Justin Wilkes.

## Session 2: Panel Discussions

### Moderator:

**Mr. Souvik Bhattacharjya**, Associate Director and Sr. Fellow, TERI

### Panelists:

- **Dr. Rachna Arora**, Team Leader, EU-REI
- **Dr. Anjali Taneja**, Senior Policy Specialist and Group Head, CSTEP
- **Col Suhail Zaidi (Retd)**, Director General, MAIT
- **Ms. Seema Shukla**, Executive Director, TIC Council, India

### Discussions points:

- How can India and the EU collaboratively establish and enforce a standardized, auditable database system for tracking e-waste materials throughout the entire supply chain, ensuring transparency and responsible disposal practices?
- In addressing the disparities in eco-investment benefits across EU member states, what collaborative policy measures can be implemented to create a more inclusive and concerted effort towards achieving high capacities of e-waste recycling, acknowledging the diverse economic contexts within the EU
- Considering the challenges in the recycling of lithium-ion batteries (LIBs) and the evolving nature of this domain, how can India and the EU collaborate on research, technology transfer, and policy frameworks to overcome barriers and advance circularity in the recycling of LIBs within the global e-waste management context?
- How can India and the EU collaboratively design and implement innovative market-based incentives that not only promote the use of recycled plastics but also address the economic challenges arising from fluctuations in oil prices and global demand, fostering a stable and sustainable recycling industry?
- Considering the cultural and economic factors influencing consumer behavior in both India and the EU, how can collaborative regulatory measures be crafted to not only mandate the use of recycled plastics but also drive a fundamental shift in consumer preferences towards sustainable, circular plastic products, fostering a mindset change from a throwaway culture to one of responsible consumption?

### Panel Summary:

The panel discussion on e-waste and plastic waste management highlighted several key points aimed at addressing the environmental challenges associated with these waste streams.

- India is undergoing a twin transition towards digital revolution as it aims to tackle the challenges of sustainable development with technological advancements.

- Emphasized the importance of data of tracking of materials and products. This calls for better collaboration between all partners (including government departments and industry within and across countries. There is a need to leverage emerging technologies including Blockchain, Digital Product passport, as well as BAT RAW project in EU for enabling such tracking.
- Provide financial support to establish units dedicated to the collection and recycling of e-waste and plastic waste, promoting sustainable waste management practices.
- Stressed the need for a comprehensive approach, outlining divisions of processes from raw material acquisition to product design, manufacturing, usage, and concluding with the collection, dismantling, and recycling phases.
- Highlighted that data gap in plastics has improved significantly through the EPR portal where almost plastic wasted processors have been registered and compliance mechanism in place. Similar approach is expected to come for e-waste as clear the intent exists.
- Recognized India's potential as a significant producer of photovoltaic (PV) waste and necessary framework must focus on strategic location of recycling units close to the ground mounted PV parks itself to reduce transport cost, learning through international collaborations. There are opportunities of adopting WEEE directive from EU), newer technology through sustainable and locally available materials.
- Highlighted the new battery waste management and handling rules that emphasizes the need for circularity and recycled content for new products.
- Highlighted the significance of international collaborations for technological advancements aimed at reducing and maintaining e-waste and plastic waste levels globally.
- Encouraged the exchange of information on key projects, such as the EU BAT Raw Project, that are actively working to develops new processes for battery repair and reuse, ensuring sustainability and circularity of batteries and raw materials, faster diagnosis of electric vehicle battery packs.

## Parallel Session II on: Connectivity in Smart Cities (Digitization, Energy & Transport)

### Session 1: Presentations by European and Indian Subject Mater Experts

#### Moderator:

- **Mr. Laurent le Danois**, Team Leader Cooperation Section, Delegation of the European Union to India

#### Speaker –

##### India:

- **Mr. Sushil Kumar**, Additional Director General Telecom, DoT
- **Mr. Jagan Shah**, Resident Senior Fellow, Artha International
- **Mr. Kishore Narang**, Narnix Technologies
- **Prof. Ramesh Loganathan**, Co-Innovation & Head Research Outreach, IIIT-Hyderabad

##### Europe:

- **Mr. Roland Hechwartner**, oneM2M
- **Mr Christophe Colinet**, Chairman, ETSI ATTM SDMC (Sustainable Digital Multiservice for Cities) working group.

#### Key Take Aways from the presentation from the Speakers:

#### Moderator:



**Mr. Laurent le Danois**,  
Team Leader Cooperation Section,  
Delegation of the European Union to India

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## Speakers:

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**Mr. Sushil Kumar,**  
Additional Director General Telecom  
DoT

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- IoT/M2M is being used to create smart infrastructure in various verticals such as power, automotive, safety and surveillance, remote health management, agriculture, smart homes, Industry 4.0, and smart cities, to name a few, using connected devices.
  - Government of India has identified M2M/ Internet of Things (IoT) as one of the fastest emerging technologies across the globe, and has taken various steps such as National Digital Communications Policy 2018, National Telecom M2M Roadmap, Guidelines for registration of M2MSP Service Providers and WPAN/WLAN Connectivity Providers, 13-digit number for M2M/IoT devices etc. to promote IoT/M2M ecosystem in India.
  - TEC has also prepared various IoT/M2M reports which suggest ways to have safe and secure IoT deployments in various verticals of smart cities.
  - oneM2M provides promising technical specifications for an interoperable and secure IoT/M2M system.
    - a. TEC has adopted oneM2M Release 2 and Release 3 as national standards.
    - b. These TEC standards have also been included by Bureau of Indian Standards (BIS) in its standards on IoT Reference Architecture released in June 2021.
    - c. [C-DOT](#) has developed a [common services platform \(CCSP\)](#) for IoT/M2M communication based on oneM2M Release 3 standards.
  - TEC has also published [Code of Practice for securing consumer IoT](#) in August 2021, which is based on based on EN 303645.
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**Mr. Jagan Shah**  
Resident Senior Fellow  
Artha International

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- Over the last 7 to 8 years, there has been a global shift towards integrating, collaborating, and cooperating across boundaries, emphasizing the need for sharing best practices more concretely.
  - The Smart Cities Mission began in 2014, with discussions around integration and standardization gaining traction.
  - Current system design issues pose challenges to integration and standardization.
  - Lack of appropriate standards in green public procurement systems for the Smart Cities Mission hinders effective implementation on the ground.
  - Despite advancements in access to digital devices and connectivity, barriers still exist. The need to transfer green credits to consumers, especially in the context of smart metering, is crucial.
  - Initiatives like the International Solar Alliance involve the participation of several European countries, highlighting global collaboration for sustainable development.
  - Addressing challenges and fostering collaboration between India and the European Union is crucial for developing sustainable and standardized solutions in urban development and infrastructure.
- 



**Mr. Kishore Narang,**  
Mentor, Principal Design Strategist & Architect  
Narnix Technolabs

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- The Indian Smart Cities are evolving as connected, liveable, energy efficient, adaptive, and resilient cities using innovative emerging technologies.
  - Smart Cities – Addressing 3 Core issues 1) Ease of Living 2) Economic-ability and 3) Sustainability.
  - Government of India has initiated several other programmes such as India Urban Data Exchange (IUDX), National Urban Innovation Stack (NUIS), Climate Smart Cities Assessment Framework 2019 etc. to support the Smart City Mission and Urbanization in the country.
  - Various applications of the Smart Infrastructure paradigm like Smart Water, Smart Gas, Smart Traffic, Smart Environment, Smart sewage Disposal etc. are going to use a few billion Smart Sensors with Communication Modules.
  - Overview of Smart City ICT Architecture
  - BIS technical committee LITD 28 on Smart Infrastructure is developing a Series of System Standards (IS 18000 to IS 18100) to address the gaps and challenges in the Smart Cities' Digital Infrastructure (including Critical/Civic Infrastructure) domain, Operations & Governance.
    - IUDX has become the first software platform in the country to fully adhere to the Architecture and API Specifications set by the Bureau of Indian Standards (BIS) for data exchange platforms.

Please [click here](#) to access the presentation by Mr. Kishore Narang.



**Prof. Ramesh Loganathan**  
Co-Innovation & Head Research Outreach  
IIIT-Hyderabad

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- The oneM2M standards based “Smart City Living Lab” is an open-innovation ecosystem that has been set up at IIITH, with support from the **MEITY, Smart City Mission and Government of Telangana** and in collaboration with the technology partners **EBTC and Amsterdam Innovation Arena** to discover & develop cutting edge innovations with smart city use cases and enrich them with the knowledge from research.
  - The Living lab combines users, private actors, knowledge institutes and public actors in real-life context.
  - The Building on the Living Lab @ IIITH Smart City Research Center is based on the following Objectives:
    - Living lab to be a platform for research/students to work on relevant industry driven projects and an Opportunity to connect students directly to the ecosystem in this thrilling environment.
    - Helping startups in creation of proof of concept, scaling up and commercialisation local & global.
    - Enhance the effective linkage of urban challenges as well as government initiatives.
    - Identify the demand of the lab environment and the urban local bodies.
    - Establishing a well-managed and transparent governance system.
    - Local/international industries as the driving force for the Living Lab.
    - Establishing a circular economy model by bringing together relevant stakeholders across sectors and disciplines from both India and Europe.
    - Consolidation of both grass-root as well as top-down mechanisms for innovation and entrepreneurship working towards a viable circular economy model that is measurable.

Please [click here](#) to access the presentation by Prof. Ramesh Loganathan.



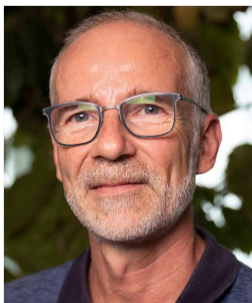
**Mr. Roland Hechwartner**  
Chairman  
oneM2M Technical Plenary

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- Smart Cities use IoT Technologies to Improve the Quality of Life for Citizens
- An ecosystem based on open standards and certification programs is expected to be essential for the acceptance and wide adoption.
- OneM2M standards-based deployment in Smart cities would help to promote interoperability, security and multi-vendor deployments.
  - OneM2M links distributed components and technologies in e2e IoT systems.
- Highlighted the oneM2M Key-Events Timelines

Please [click here](#) to access the presentation by Mr. Roland Hechwartner.

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**Mr Christophe Colinet**

Chairman,  
ETSI ATTM SDMC (Sustainable Digital Multiservice for Cities) working group.

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- Interoperability is the key to ensure citizen digital rights protection and to avoid vendors locking in and stimulate the market by giving confidence in the ecosystem as a whole: citizen, public and private sector.
- OneM2M standards play a crucial role in resolving interoperability issues for communities.
- Introduction of LIVING-IN.EU (<https://living-in.eu/>): The European way of digital transformation in cities and communities
  - Living-in.eu is a bottom-up movement which has the ambition to have a positive impact on the quality of life of at least 300 million European citizens by 2025.
  - The initiative is a cooperation of Eurocities, Open & Agile Smart Cities (OASC), European Network of Living Labs (ENoLL) and is supported by the European Commission and the European Committee of the Regions.

Please [click here](#) to access the presentation by Mr. Christophe Colinet.

## **Session 2: Panel Discussion**

### **Moderator:**

- **Mr. Jagan Shah**, Resident Senior Fellow, Artha International

### **Panelists:**

- **Mr. Aurindam Bhattacharya**, Group Leader, CDOT
- **Mr. Kishore Narang**, Narnix Technologies
- **Mr. Lohith MV**, Technology, and Innovations Head @ Siemens Advanta India.
- **Ms Margot Dor**, Director Government Affairs, ETSI
- **Mr. Wim De Kesel**, Group Vice-President, Standardization and Regulation, Legrand



- **Mr. Andreas Neubacher**, oneM2M & Deutsche Telekom

**Discussion points:**

- Can you elaborate on the challenges India faces in smart waste management. In EU, there is a legislation called “Waste Management Directive”, how collaboration with the EU could address these challenges and adopt best practices from this collaboration?
- India and the EU/EFTA have diverse approaches to smart water management. In EU, there is a legislation called “Water Framework Directive”, How can India or Europe could benefit from insights, learnings and legislations and what future potential do you see for cooperation in this area?
- Both India and the EU are investing hugely in advanced surveillance technologies for public safety. Could you share your perspective, how collaboration in areas like AI, facial recognition, biometrics and say drone usage could enhance public safety in smart cities?
- The use of Big Data, Data Analytics in Indian smart cities face challenges. How can the EU's expertise in urban data platforms contribute to India's Smart Cities Mission, and what potential do you see in AI-driven data analytics collaboration for sustainable urban development?
- How can collaborative efforts between India and the EU in the development of smart grids and energy management systems be leveraged to not only ensure cross-border interoperability but also address the unique challenges of each region, fostering innovation and resilience in the face of evolving energy landscapes?
- In the transition to greater renewable energy integration, how can India and the EU independently optimize financial incentives, regulatory frameworks, and technological innovations to address the intermittency challenges of renewable sources and foster a resilient energy grid tailored to the unique needs of their respective smart cities?
- In advancing energy-efficient building practices, how can India independently optimize the implementation of IoT devices for real-time monitoring and control, coupled with innovative green financing schemes, to encourage the adoption of energy-efficient technologies in construction projects, ensuring a sustainable and resilient urban infrastructure?
- Considering the rapid advancements in smart parking technology, how can India and the EU build infrastructure while encouraging innovation, through initiatives like dynamic pricing models and multi-modal integration, and safeguarding individual privacy, ensuring that smart parking systems enhance urban mobility without compromising citizen trust in their smart city infrastructures?
- How can India and the EU independently harness the potential of real-time traffic information, foster collaboration with using different stakeholders to address the specific traffic challenges in their respective smart cities, ensuring sustainable urban mobility and optimized traffic flow?
- How can India and the EU independently and collaboratively navigate the challenge of expanding both motorized and non-motorized transportation effectively, while striving towards uniform global standards and collaborative research on energy storage?

**Panel Summary:**

The panel discussion highlighted several key points regarding the imperative need for interoperability and standardization in the IoT ecosystem. Here is a concise summary of the key insights:

- Emphasized the necessity for more Living Labs for demonstrating standardisation, like at IIT Hyderabad, which has adopted the oneM2M standard and Wi-SUN.
- Necessity for frameworks for certification to attest that the oneM2M standards are being properly applied
- Advocated for the development of diverse use cases for end-to-end IoT systems to showcase practical applications of standardization.
- Stressed the need for interoperability events to mainstream oneM2M, ensuring widespread adoption and compatibility.
- Highlighted the importance of upgrading to oneM2M Release 5, which incorporates Artificial Intelligence (AI) for enhanced capabilities.
- Presented the Bordeaux case study illustrating the significance of interoperability for local authorities to control data privacy.
- Discussed the Living-IN.EU website as a resource for a pan-EU approach in documenting practices for local authorities.
- Underlined that interoperability involves technical, cultural, legal, organizational, and schematic dimensions.
- Emphasized the need to ensure digital rights protection and avoid vendor lock-in.
- Showcased various Indian innovations, including the National Digital Communication Policy, National Telecom M2M Roadmap, and initiatives for securing consumer IoT.
- Robust connectivity is essential to enable interoperability.
- The business case for standardisation has to be created for India.
- Skilled manpower for standardisation is much needed.
- Suggested that Request for Proposals (RFPs) should favor players adopting and implementing oneM2M standards
- Encouraged the creation of start-up platforms, especially in smart cities, to promote innovation.
- Stressed the importance of incorporating smaller entities into the IoT ecosystem.
- Promote the regulatory interoperability that is needed to promote actual interoperability.
- Advocated for the promotion of regulatory interoperability, starting with appropriate policy development.
- Highlighted the release of EU directives on Electricity Markets and Renewable Energy as crucial for influencing behavior change.

### **Parallel Session III on: Data Privacy & Cyber Security**

#### **Session 1: Presentations by European and Indian Subject Matter Experts**

**Special Address:**

- **Shri Golok Kumar Simli**, Principal Advisor and Chief Technology Officer, Ministry of External Affairs

**Moderator:**

- **Mr. Wim De Kesel**, Group Vice-President, Standardization and Regulation, Legrand “CEN-CENELEC”

**Speaker:**

**India:**

- **Mr. Ajay Kr Garg**, Director & Head (Digital Tech & Law) Anand and Anand Associates
- **Dr Debabrata Nayak**, Head of Cyber Security Ericsson
- **Dr. Sriram Birudavolu**, Data Security Council of India
- **Mr. Kshitij Bathla**, Scientist-C/Deputy Director (LITD), BIS
- **Mr. P. K. Singh**, DDG Security, DoT
- **Mr. Lal Chandran**, CTO iGrant.io

**Europe:**

- **Dr. Walter Fumy**, Chair CEN-CENELEC JTC 13 Cybersecurity and Data Protection
- **Mr. Slawomir Gorniak**, Senior Cyber Security Expert, ENISA
- **Mr Martin Michelot**, Executive Director of TIC Council, Europe

## **Key Take Aways from the presentation from the Speaker:**

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**Mr. Golok Kumar Simli**  
Principal Advisor and Chief Technology Officer  
Ministry of External Affairs

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- In his keynote address Mr. Golok Kumar touched upon the role of digitization to empower the citizens of the country
- India has set to become \$ 1 Trillion Digital Economy by 2027 and \$ 5 Trillion Overall Economy by 2030
- National initiatives within India Stack, implemented at a population-wide scale, encompass a diverse range of services and platforms, including but not limited to UPI (Unified Payments Interface), DBT (Direct Benefit Transfer), AADHAAR (Unique Identification), GEM (Government e-Marketplace), DigiLocker, GST (Goods and Services Tax), and PASSPORT services.
  - These initiatives collectively contribute to the facilitation of efficient and secure digital transactions, data management, and streamlined governance processes.
- Highlighted key focus areas and emerging technologies in digital transformation.

Please [click here](#) to access the presentation by Mr. Golok Kumar.

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**Mr. Wim De Kesel**  
Group Vice-President, Standardization and Regulation, Legrand “CEN-CENELEC”

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- The cybersecurity market in India is on the verge of significant expansion, driven by the widespread use of mobile devices, adoption of secure identification practices, and a notable shift in antivirus software strategies.
- In Europe, frameworks such as eIDAS and Digital ID Wallet are shaping the landscape of cybersecurity.
- It is crucial to recognize that cybersecurity standards require collaborative efforts.
- Both India and Europe have undertaken various initiatives to strengthen their cybersecurity frameworks.

- In India, notable efforts include the DPDP Bill, the Digital India initiative, the National Cybersecurity Strategy 2020, and the National Cybersecurity Policy 2013. Meanwhile, in Europe, initiatives such as the cybersecurity certification scheme by ENISA, the Cyber Solidarity Act, the Cyber Resilience Act, and the Cybersecurity Act are indicative of the region's commitment to bolstering cybersecurity measures.
  - It is evident that joint efforts and comprehensive strategies are essential to effectively address the evolving challenges in the realm of cybersecurity, ensuring a secure digital environment for both nations.
  - India and EU agreed to strengthen cooperation, work towards tangible outcomes on cybersecurity, and continue to expand existing cooperative efforts.
  - Cybersecurity is one of the focus areas of EU-India TTC
- 



**Mr. Ajay Kr Garg**  
Director & Head (Digital Tech & Law)  
Anand and Anand Associates

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- Connecting devices in the cyber domain remains a persistent challenge.
  - Notable shifts in GDPR implementation are observed in Europe, while India has enacted the DPDP Act to address privacy concerns.
  - The emergence of a consent-based data stream is critical, especially in the context of government experience in negotiating trade agreements with EU/EFTA and other countries.
  - Recent negotiations have expanded to include services, digital trade, and the seamless flow of data across borders.
  - Lack of international regulations on cyber incidents poses challenges.
  - Agreements are needed to mandate the sharing of cyber incident data across affected countries.
  - Discussions around Data Privacy standards, privacy regulations, and cybersecurity are crucial in shaping the future of digital trade agreements.
  - EU-India should focus on ensuring the smooth flow of data while safeguarding privacy and cybersecurity on an international scale.
- 



**Dr. Debabrata Nayak**  
Head of Cyber Security  
Ericsson

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- In his presentation, he talked about Digital Personal Data Protection (DPDP) Act 2023
    - Data classification, terminology, key provisions etc.
  - Highlighted key challenges in implementing DPDP Act
  - Overview of GDPR in Europe
  - Presented a comparative study across GDPR, CPRA, and DPDP Act
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**Dr. Sriram Birudavolu**  
CEO, Cyber Security Centre of Excellence  
Data Security Council of India

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- Cybersecurity is a \$2 trillion market opportunity for cybersecurity technology and service providers.
  - Highlighted key areas of concerns including Cloud, Applications, Mobile, AI, IoT and Legacy
  - Briefed about DSCI Privacy Framework (DPF)
    - To protect privacy of personal information from unauthorized use, disclosure, modification or misuse, DSCI has conceptualized its approach towards privacy in the DSCI Privacy Framework (DPF) which is based on the global privacy best practices and frameworks.
  - He explained the importance of cloud security, common cloud security threats, key cloud security challenges, cloud native stack etc.
  - DSCI along with Government of Telangana has set up a Cybersecurity Centre of Excellence to strengthen the posture of Cybersecurity and Privacy in the ecosystem.
  - Industry-recognized security standards are essential for guiding organizations in assessing and implementing effective security and compliance controls in the cloud.
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**Mr. Kshitij Bathla**  
Scientist-C/Deputy Director (LITD)  
BIS

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- Overview of Bureau of Indian Standards (BIS), its core activities such as standardization, conformity assessment, testing and training etc.
  - BIS has 15 divisions, over 400 technical committees which have developed more than 22,000 standards.

- Cybersecurity and Data Privacy are among the key areas in ICT sector identified by BIS for standardization in Standards National Action Plan (SNAP) 2022-27.
- Bureau of Indian Standards (BIS) has adopted many international standards in the field of cybersecurity.
  - LITD 17 on Information Systems Security and Privacy is responsible for developing standards in the field of cybersecurity.
  - ETD 18 Industrial Process Measurement and Control, Sectional Committee
- Standardization is collaborative effort, organizations willing to contribute in standardization are encouraged to contact Bureau of Indian Standards (BIS).

Please [click here](#) to access the presentation by Mr. Kshitij Bathla.

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**Mr. P. K. Singh**  
DDG Security  
DoT

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- Mr. Singh started his presentation with the definition of “Privacy”
- Explained the “OBLIGATIONS OF A DATA FIDUCIARY” under the DPDP Act 2023.
- He also touched upon the Special Provisions (Sec 16-17) and Rights and duties of Data Principal.

Please [click here](#) to access the presentation by Mr PK Singh.

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**Mr. Lal Chandran**  
Co-Founder and CTO  
iGrant.io

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- Mr. Lal began his presentation by highlighting the contemporary challenges faced in data processing and explained key issues that organizations and individuals encounter in the current data landscape.
- Explored the dynamics of data transactions, emphasizing the crucial actors involved and explained various use cases to illustrate the diverse scenarios where data transactions take place.

- He also delved into the evolving landscape of data exchange, introducing the role of intermediation service providers.
- Briefed about the three primary drivers influencing data agreements:
  - **Data Laws (e.g., GDPR, DGA, etc.):** Emphasized the legal frameworks and regulations that shape data agreements.
  - **Standards and Architectures:** Explored the role of industry standards and technological architectures in guiding data agreements.
  - **Social and Ethical Norms:** Addressed the influence of societal values and ethical considerations on the formulation of data agreements.
- Presented an overview of the workflow involved in crafting and implementing data agreements.

Please [click here](#) to access the presentation by Mr Lal Chandran.

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**Dr. Walter Fumy**

Chair CEN-CENELEC JTC 13 Cybersecurity and Data Protection

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- Dr Walter Fumy focused on the significant contributions of CEN-CLC/JTC 13 in the field of Cybersecurity and Data Protection.
  - Key areas of work include Security requirements, services, techniques, and guidelines, Management systems, frameworks, methodologies, Data protection and privacy, Security assessment, and evaluation, Cryptography.
  - CEN-CLC/JTC 13 actively identifies and adopts documents published by ISO/IEC JTC 1, other Standards Development Organizations (SDOs), international bodies, and industrial forums.
  - Additionally, it takes part in the development of specific CEN-CENELEC publications, contributing to the overall cybersecurity standards landscape.
- He briefed the audience on the EU Cybersecurity Act (CSA), Working Group (WG) addressing the RED Standardisation Request and the Cyber Resilience Act (CRA), emphasizing their significance in the European cybersecurity framework.
- Another noteworthy mention was the establishment of WG 5 Cybersecurity under CEN-CENELEC JTC 21 on Artificial Intelligence.

Please [click here](#) to access the presentation by Dr. Walter Fumy.

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**Mr. Slawomir Gorniak**  
Senior Cyber Security Expert  
ENISA

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- Mr. Slawomir provided a comprehensive overview of the existing EU legislation pertaining to the cybersecurity landscape.
    - Highlighted key aspects and regulations influencing cybersecurity practices within the European Union.
  - He emphasized the crucial role of standardization bodies in developing and maintaining cybersecurity standards.
  - He also presented insights into ENISA's (European Union Agency for Cybersecurity) Cybersecurity Certification Framework.

Please [click here](#) to access the presentation by Mr. Slawomir Gorniak.



**Mr Martin Michelot**  
Executive Director of TIC Council, Europe

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- Mr. Martin delved into insights regarding the recently introduced Cyber Resilience Act. Specifically, his presentation focused on perspectives from conformity assessment within the context of this new legislative framework.
  - He highlighted the key obligations placed on manufacturers under the Cyber Resilience Act.
    - Explained how manufacturers are expected to meet specific cybersecurity standards and requirements to ensure the resilience of their products.
  - He explored the nuances of product classification under the Cyber Resilience Act.
    - Addressed how diverse types of products may have varied cybersecurity requirements and classifications to enhance overall resilience.
  - Outlined the compliance mechanisms integral to the Cyber Resilience Act.

Please [click here](#) to access the presentation by Mr. Martin Michelot.

## Session 2: Panel Discussions

### Moderator:

- **Dr N. Subramanian**, Executive Director, Society for Electronic Transactions and Security (SETS Chennai)

### Panelists:

- **Mr. Vijay Madan**, Advisor & Mentor TSDSI
- **Mr. Debabrata Nayak**, Head of Cyber Security Ericsson
- **Mr. Narendra Nath**, ITS, Joint Secretary NSCS
- **Dr. Sriram Birudavolu**, Data Security Council of India
- **Mr. Sachin Gaur**, Industry Expert on Data Privacy & Cyber Security
- **Mr. Manojkumar Parmar**, Founder, CEO & CTO, AIShield powered by Bosch.
- **Mr Martin Michelot**, Executive Director of TIC Council, Europe

### Discussion points:

- The Digital Personal Data Protection Bill in India highlights encryption challenges. How can collaboration with the EU strengthen encryption standards, and what specific measures should be considered to address the gaps in data privacy & consent management?
- Privacy Impact Assessments are vital for data privacy. How can India and the EU align their PIA practices for standardized and effective implementation? Are there key takeaways that each geography can learn from the other's experience in conducting PIAs?
- Both India and the EU are emphasizing secure authentication frameworks. How can collaboration in this area strengthen cybersecurity practices? Are there specific technologies or methodologies that could be shared to enhance authentication security?
- Data breach response plans are crucial, and both India and the EU have entities like CERT-In and CERT-EU. What collaborative measures can be taken to enhance these response plans and mitigate the impact of data breaches across borders?
- Cross-border data transfer standards are a significant concern for both India and the EU. What collaborative agreements or standards can be established to ensure secure and transparent data transfers between the two trusted regions, considering the differences if any in the existing regulations like DPDP and GDPR?

### Panel Summary:

The panel discussion focused on the challenges and emerging technology trends in safeguarding personal data and securing digital infrastructure for a trustworthy computing environment. Key points covered include:

- Explored advancements in Quantum Computing and Quantum Communication – Post Quantum Cryptography, Quantum Key Distribution over fibre and frees-space communication, AI & Cybersecurity, privacy preserving technologies and Zero trust architectures.
- Raised issues related to Adversarial Artificial Intelligence, Zeroday attacks, data breaches, malware, phishing, malicious IoTs/sensors.

- Highlighted the Indian “Digital Personal Data Protection” Bill 2023 and EU’s EU/EFTA’s – General Data Protection Regulation (GDPR) - empowers individuals with greater control of data stringent guidelines for data protection. Slew of policy measures taken by India and EU and joint Indo-EU cooperation in Cybersecurity.
- Outlined opportunities for Collaboration & Innovation between India and EU
  - Secure by design, development, and deployment
  - End-to-End Security in the context of Quantum Key Distribution
  - Environment security, secure automation, Devising reliable and trustworthy AI systems.
  - Urgent need of security for cyber physical system, data modelling for both public and private data and mechanisms for control of trust
  - Nature inspired cyber security like bio-inspired approaches and algorithms, device finger printing.
  - Adoption of evolving post quantum cryptography and Privacy preserving techniques
  - Privacy and security from citizen centric perspectives
- Highlighted collaborations opportunities on aspects pertaining to consent management mechanisms, Encryption, Privacy Impact Assessments, Secure Authentication Frameworks, handling data breaches and standards and methods for cross border data transfers.

### **Valedictory Session**

The valedictory session did not occur due to time restrictions and delays in previous sessions.