



Coordinating Committees



Smart Nation



Cybersecurity



Silver Industry

Standards Promotion Committee

12 Standards Committees



Biomedical & Health



Building & Construction



Chemical



Electrical & Electronic



Environment & Resources



Food



Information Technology



Manufacturing



Quality & Safety



Services



Trade & Connectivity



Transportation

Electrical & Electronic Standards Committee

3 Technical Committees



Electrical & Electronic Products



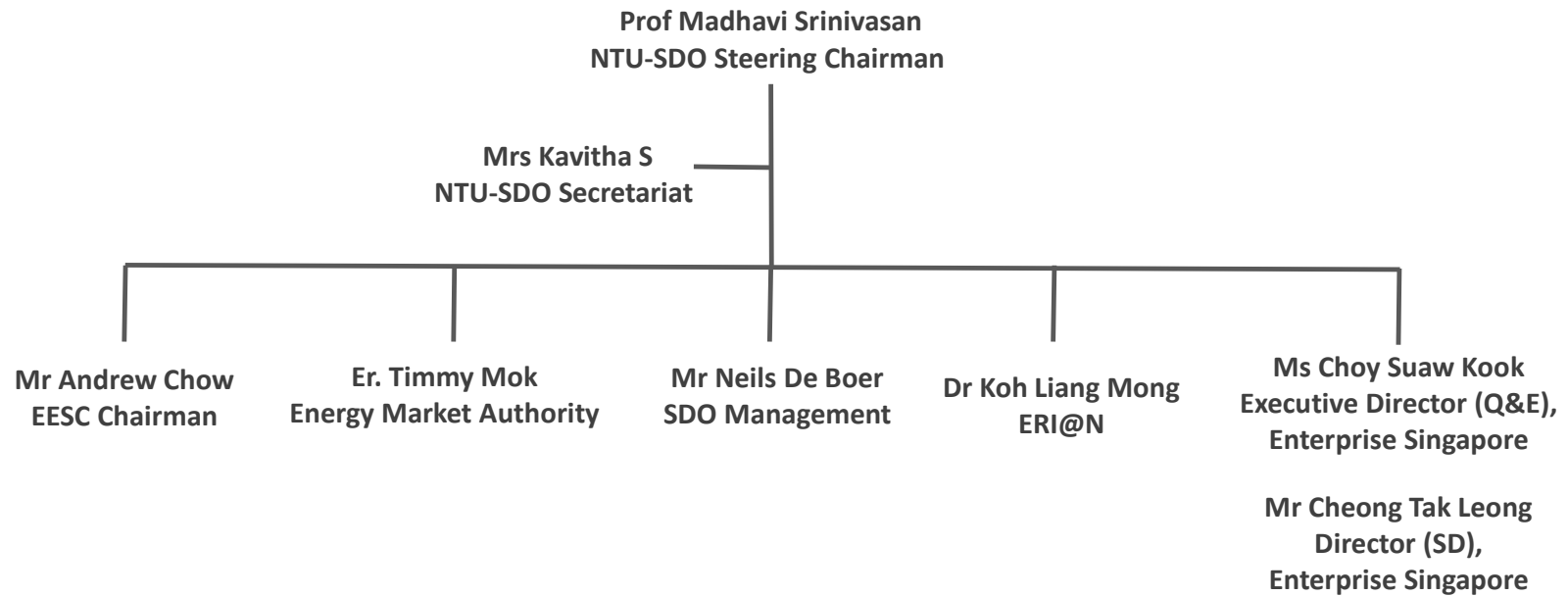
Building Facilities & Services



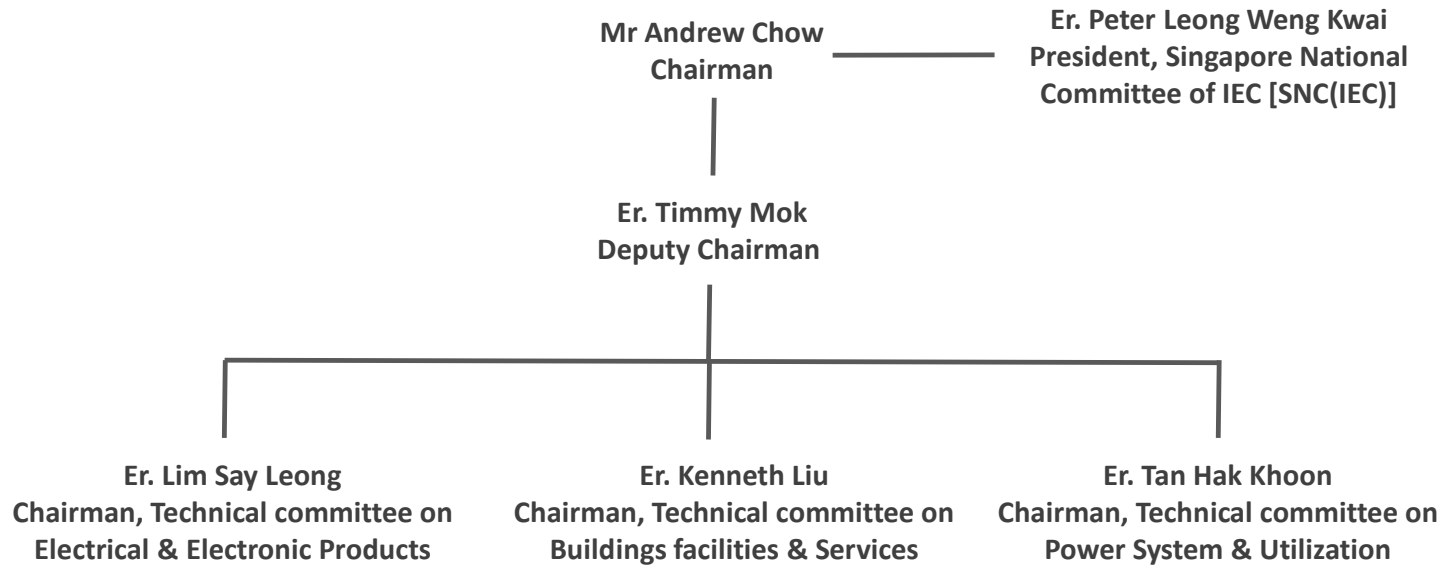
Power System & Utilization

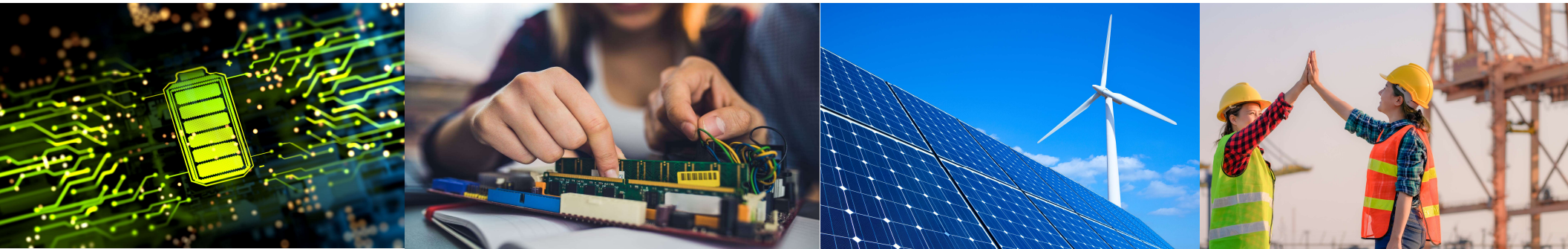
>30 Working groups

NTU-SDO Steering Committee Composition



EESC Structure





What Are Standards?

- A standard is a document that provides requirements, specifications, guidelines etc. that can be used consistently to ensure that products, processes & services are fit for purpose.

Benefits of Standards

- **Cost reduction:** rationalize processes and economy of scales, broader choice of suppliers and reduced transaction costs.
- **Increased market opportunities:** access to broader target markets, faster development of new markets (consolidation, increased consumer confidence).
- **Competitive advantage:** being able to anticipate market needs, influence or lead market development.
- **Improved risk & environmental management:** anticipating regulatory requirements, reduces negative impacts on the environment, sharing risk and cost associated to developing new markets.

How Standards are Created

- Standards are created by bringing together the experience & expertise of all interested parties such as the producers, sellers, buyers, researchers, experts, users & regulators of a particular material, product, process or service.
- Any standard is a collective work, established by consensus & approved by a recognized body.

How industries use standards

Operations



To **improve trust in business processes**

Companies have adopted **ISO 22301** to **ensure** that proper **business continuity measures** are in place for more **robust business processes** within the company.

ISO 22301 – Business continuity management system

Service/Product Quality



To **improve trust/quality**

The adoption of **SS 600** by the bunkering industry has **shortened the delivery of bunkers** in Singapore.

SS 600 – Code of practice for bunkering

Business Development/Procurement



To **meet customer requirements**

Some companies require their suppliers to adhere to **ISO 9001** for **better quality assurance** in their service provided.

ISO 9001 – Quality management systems



Companies involved in the **delivery of medication** can refer to **SS 644** for guidelines on the **storage, traceability and safety requirements**

SS 644 – Guidelines for supply and delivery of medication



System Integrators have adopted **IEC 62541** in their solutions to **ensure** the **interoperability of their solutions** with other existing solutions.

IEC 62541 – OPC unified architecture



Companies that wish to enter the logistics delivery business for eCommerce can use **TR 46** as a **guidance for eCommerce data interchange**.

TR 46 – eCommerce data interchange for last mile delivery

How government agencies use standards



Referenced in Legislations

Example:
The Electricity Act mandates that the **licensed electrical workers responsible for any electrical installation shall comply with SS 638.**

SS 638 – Code of practice for electrical installations



Requirements for National Initiatives

Example:
TR 25 will be used to regulate new electric vehicles (EV) charger network of some **60,000 EV charging points** Island wide by 2030 (i.e. TR 25).

TR 25 – Electric vehicle charging system



Requirements for National Schemes

Example:
The BCA Green Mark Scheme was launched in January 2005 as an initiative to drive Singapore's construction industry towards more environment-friendly buildings **Standards such as SS 530 act as a pre-requisite for companies applying for the BCA Green Mark Scheme.**

SS 530 – Code of practice for energy efficiency standard for building services and equipment



Licensing Requirement

Example:
SS 524 is a licensing requirement under MPA. **Licensed bunker suppliers will have to comply to the SS 524** when they provide bunkering services in Singapore.

SS 644 – Quality management for bunker supply chain



Requirements for "Sandbox"

Example:
TR 68 is used by LTA as a guideline for **companies who wish to test their Autonomous Vehicle (AV) solutions in Singapore.**

TR 68 – Autonomous vehicles



Guidelines for Industry

Example:
SS 644's guidelines provide clear guidance for healthcare and logistics service providers on proper storage, security, traceability and safety of medication during the delivery process. **Organisations involved in the delivery of medication are required to comply with the legal and professional requirements.**

SS 644 – Guidelines for the supply and delivery of medication