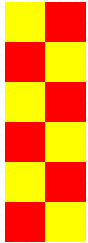# SCDF
The Life Saving Force
. . . for a safer Singapore

FSM Briefing 2023
Utilising Internet of Things (IoT) to Complement FSM Duties

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Scope

- **Duties and Challenges of Fire Safety Managers**

- **Internet of Things (IoT) Sensors**

- **Conclusion**

Duties & Challenges of Fire Safety Managers

Conduct daily checks on fire safety provisions and remove fire hazards

Conduct fire drills and table-top exercises

Supervise maintenance of all fire safety works

Supervise FCC during fire or other emergencies

Emergency Response Plan compliance

Occupant load does not exceed
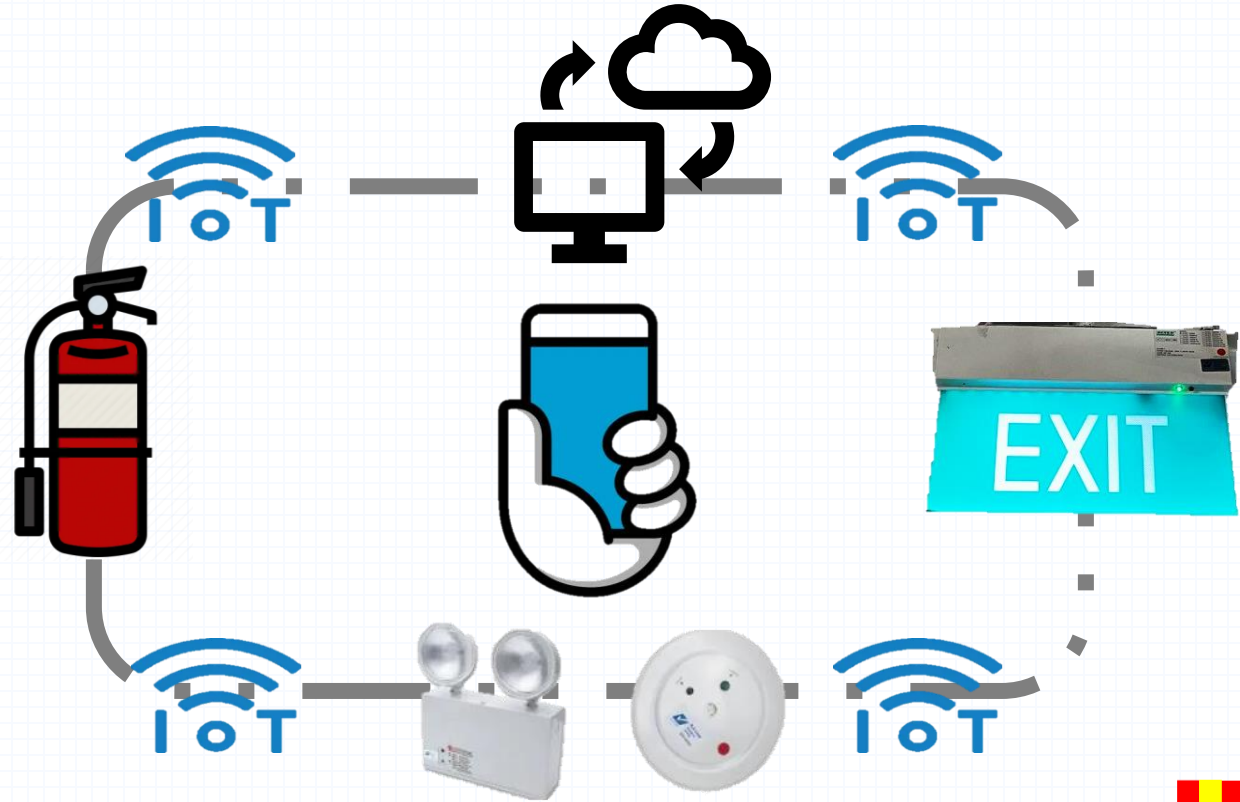
https://go.gov.sg/fsm-regulations

Internet of Things (IoT) Sensors

- IoT sensors are small, connected devices that can collect and transmit data in real-time.

- They can be used in a variety of applications such as smart home systems and fire safety management.
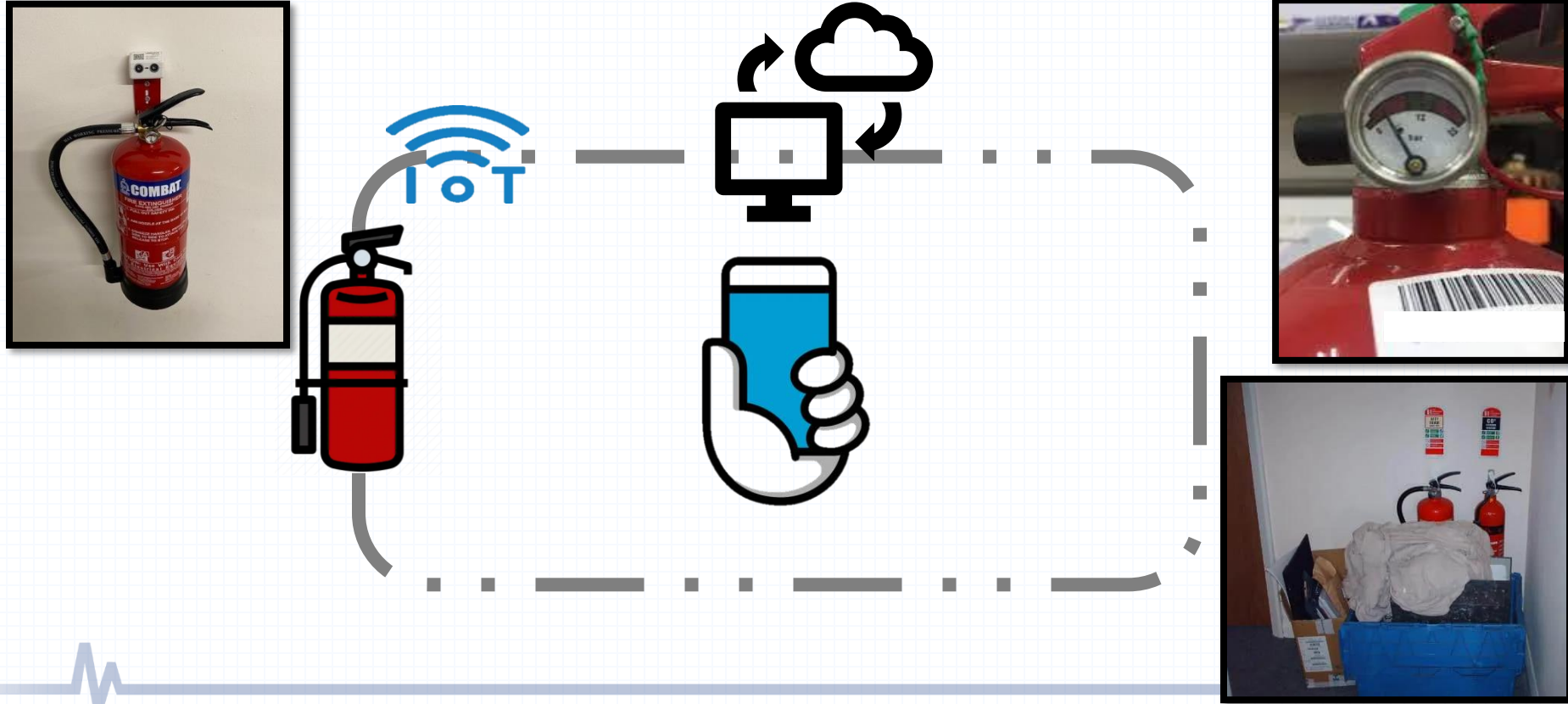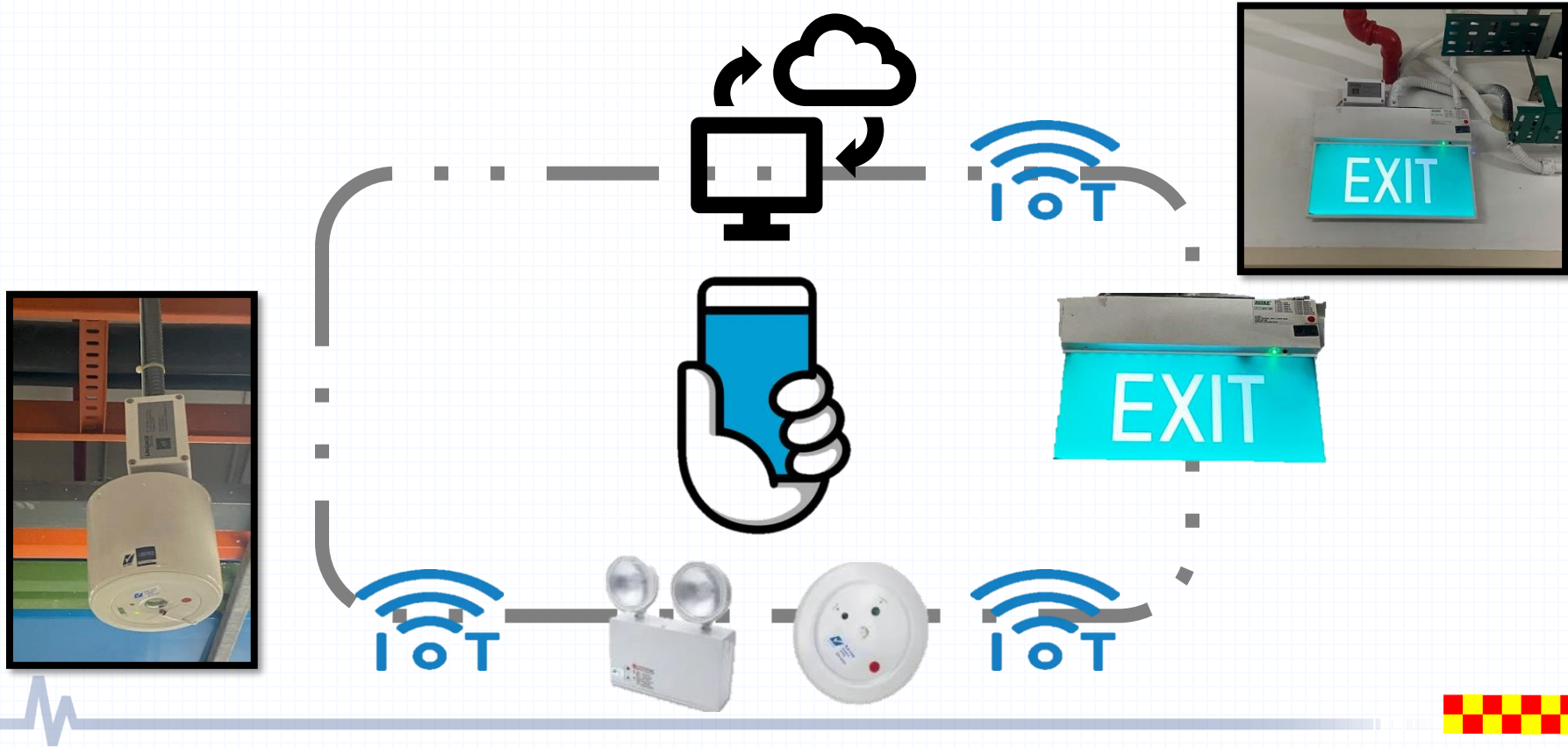
IoT Sensors in Fire Safety Systems

Use of IoT sensors for:
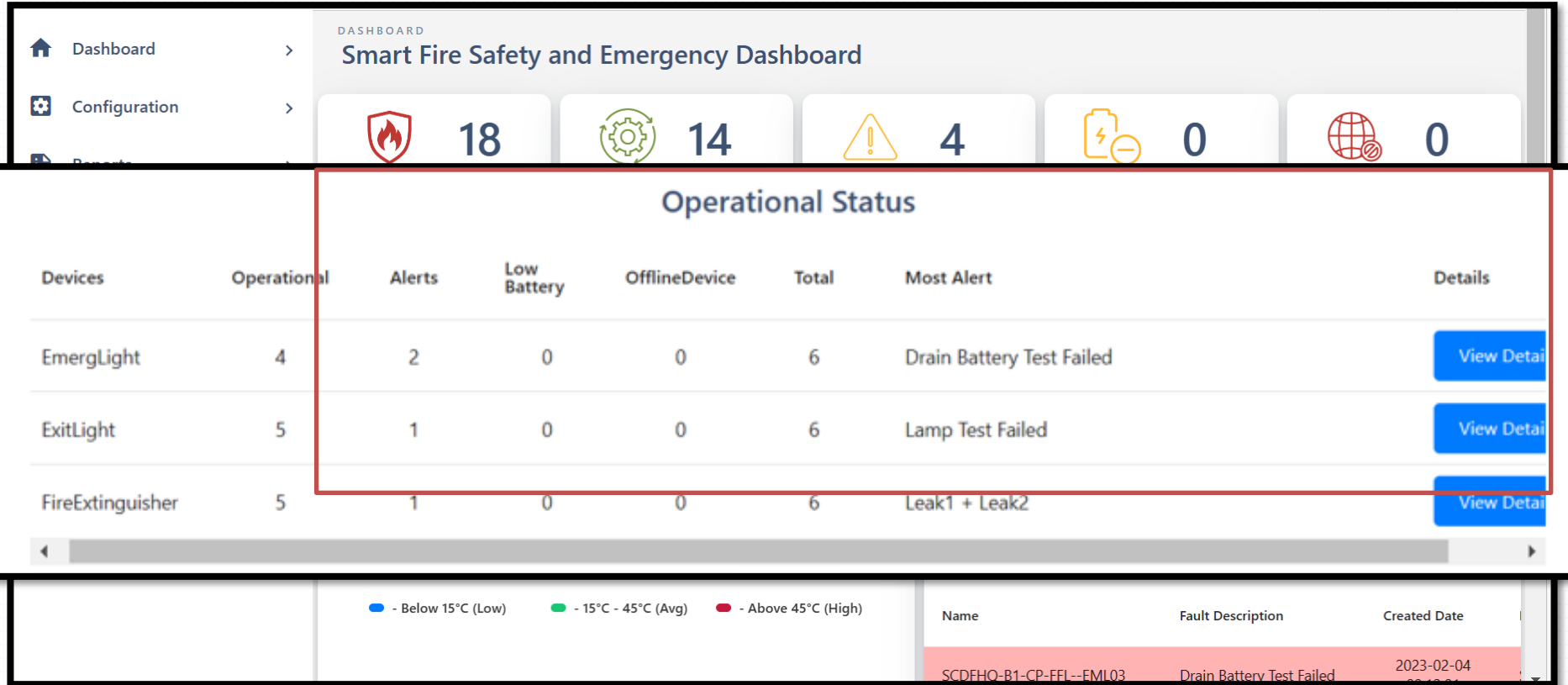
a. Fire Extinguishers

b. Emergency Lights & Exit Signs

IoT Sensors for Fire Extinguishers

IoT Sensors for Emergency Lights / Exit Signs

Real-time Remote Monitoring and Alerts

Summary of Key Benefits of using IoT Sensors for Fire Safety Systems

S/N	Equipment / Devices	Benefits
1.	Fire Extinguisher / Emergency Lights / Exit Signs	1. Early warning to trigger preventive maintenance 2. Early detection to remove fire hazard and obstruction 3. Deterrence against misuse / damage / theft 4. Remote/automatic testing

Key Takeaways:

SCDF highly encourage the industry to consider the use of IoT in premises

- **IoT can complement FSM duties**

- **It can help monitor fire safety systems in real time**

- **Pre-fault maintenance of fire pump system, rising mains, smoke control systems etc. to prevent major breakdown**

SCDF and Industry Partners

are already working together to enhance industry standards for maintenance of fire safety systems

Singapore Standards (SS) 578
[Code of Practice for Use and Maintenance of Portable Fire Extinguishers]

- Inclusion of electronic monitoring system

- Guidance on maintenance of electronic monitoring system

Singapore Standard SS 578:2019
Amendment No. 1

2. **Page 25, 10.2.1 Frequency of inspection**

Replace the first sentence of 10.2.1 with the following:

The extinguishers shall be inspected monthly, manually or by electronic means, by the building owner or occupant. Inspections shall be conducted at more frequent intervals when any of the following circumstances exist:

3. **Page 25, 10.2.2 Inspection procedures**

(a) *Number* the first paragraph as 10.2.2.1.

(b) *Insert* the following new subclause:

10.2.2.1 Inspection by means of electronic monitoring

*Extracted from: Singapore Standards 578:2019 – Amendment No. 1

Singapore Standards (SS) 563

[Code of Practice for the design, installation and maintenance of emergency lighting and power supply systems in buildings – Part 2: Installation requirements and maintenance procedures]

- Inclusion of automatic testing facilities
- Guidance on design of centralised testing facilities for automatic discharge testing
- Work in progress to include electronic monitoring

> ## 9.4 Automatic testing facilities
>
> ### 9.4.1 System requirements
>
> The facility shall ensure that each emergency escape luminaire and exit sign is automatically subjected to a discharge test in accordance with the relevant procedure and test intervals specified in clauses 11 to 13 of this Standard.
>
> The system used to time the interval between successive discharge-tests shall not be affected during periods when the normal supply is interrupted.

*Extracted from: Singapore Standards 563-2:2010(2017)+A2:2017

Thank You