Is activating the ventilation system dependent on operators

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Introduction

- Activating the ventilation system

COMPUTER LOCKED
The guy in bathroom can login

3

Introduction

- Activating the ventilation system
    - Tunnel fire
    - Station fire
    - Other scenarios
    - Quicker the activation, the better
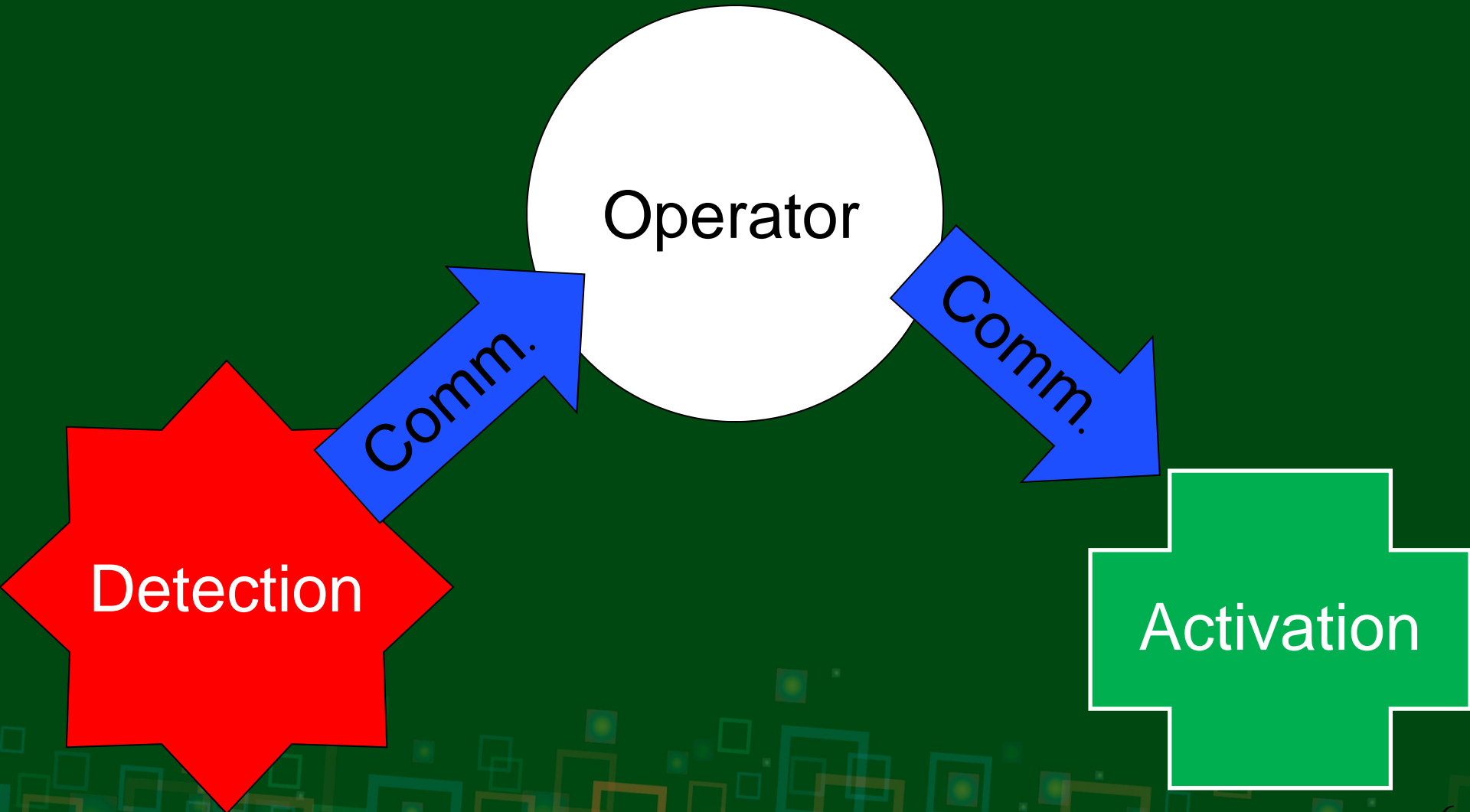
Overview

- Introduction

- Steps to activation
- Activation Issues
- Process, procedure, and training

Steps to activation

Detection

Comm.

Operator

Comm.

Activation

Steps to activation

Detection

- Detection
  - Passenger (train, station)
  - Employee (train, station, remote)
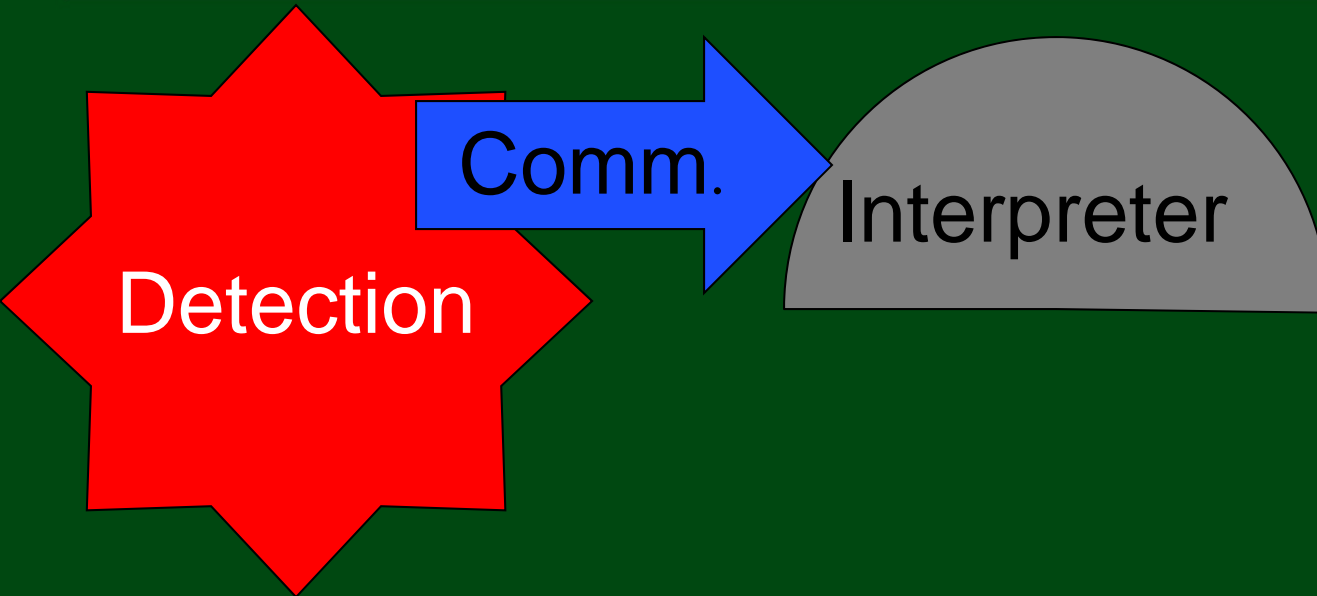 - Automatic detection
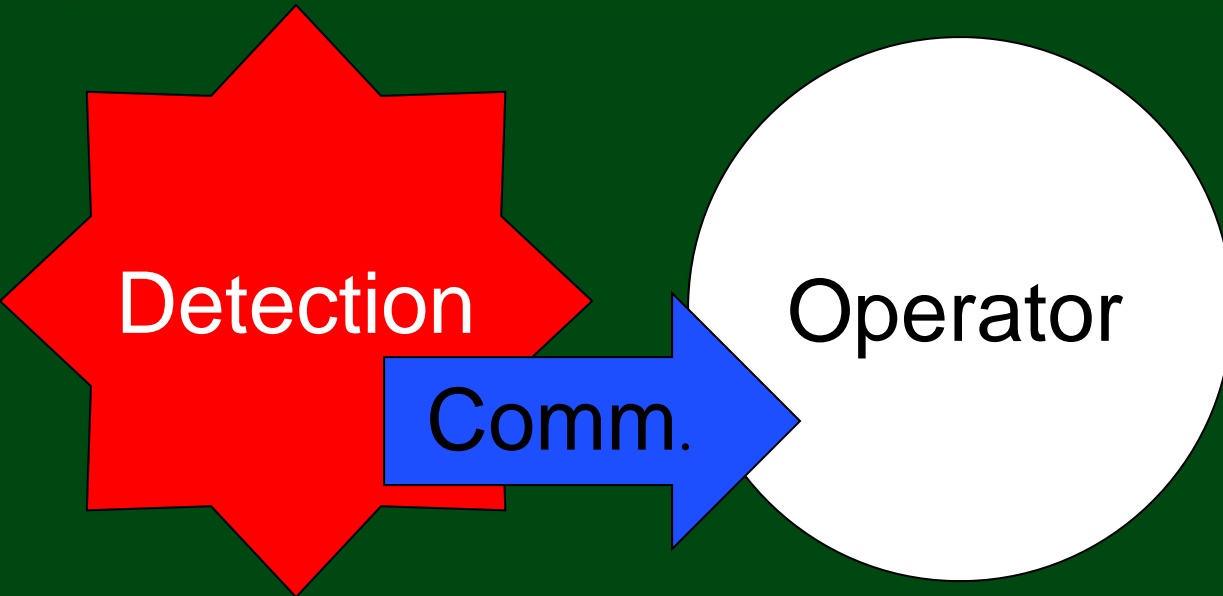
Steps to activation

Detection

Comm. →

- Communication
  - Intercom
  - Radio
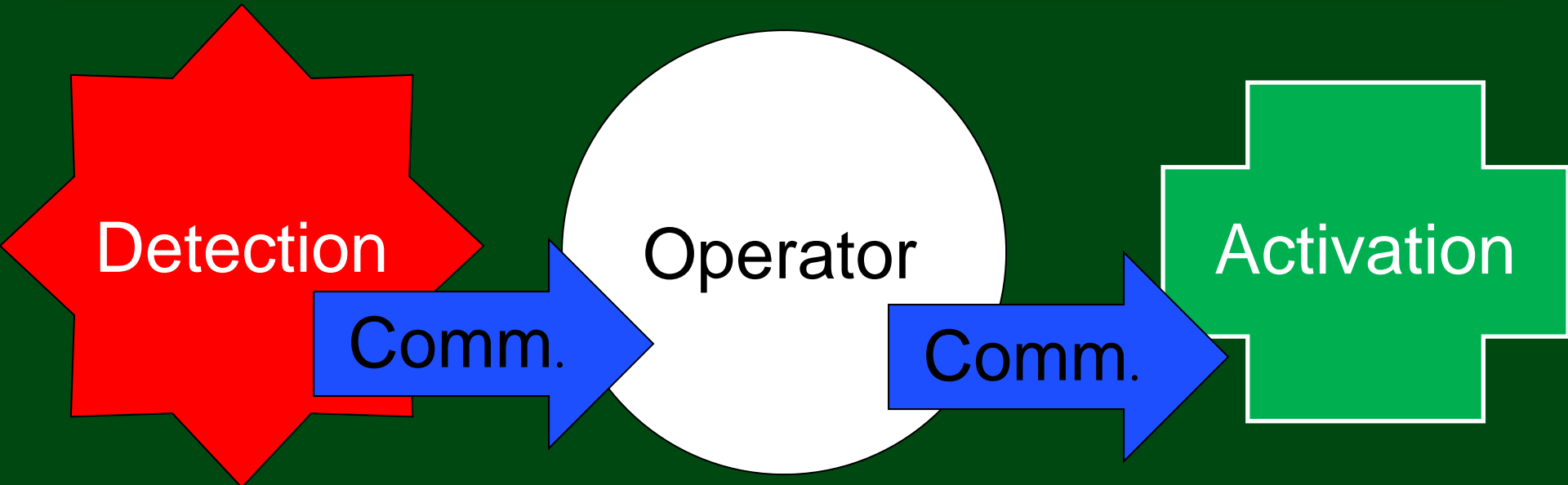 - SCADA
  - Audio and video

Steps to activation

Detection → **Comm.** → **Interpreter**

- Interpreter part of detection
  - Train operator
  - Station attendant
  - Customer service

Steps to activation

Detection → **Comm.** → **Operator**

- Operator
  - Operations control center (OCC)
  - Obtain information
  - Action

Steps to activation

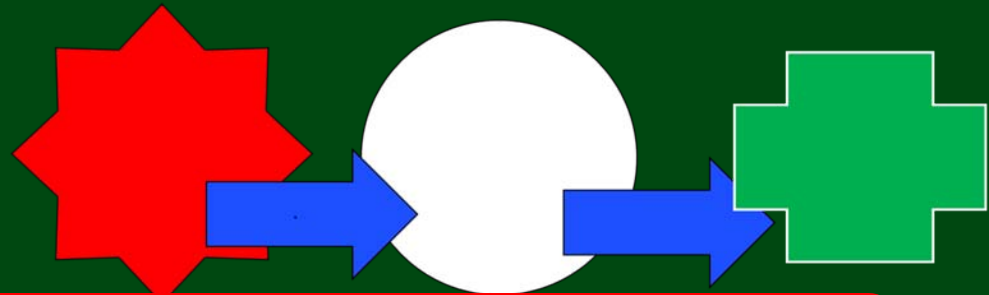**Detection** → Comm. → **Operator** → Comm. → **Activation**

- Activation
  - Communication path
  - Ventilation mode
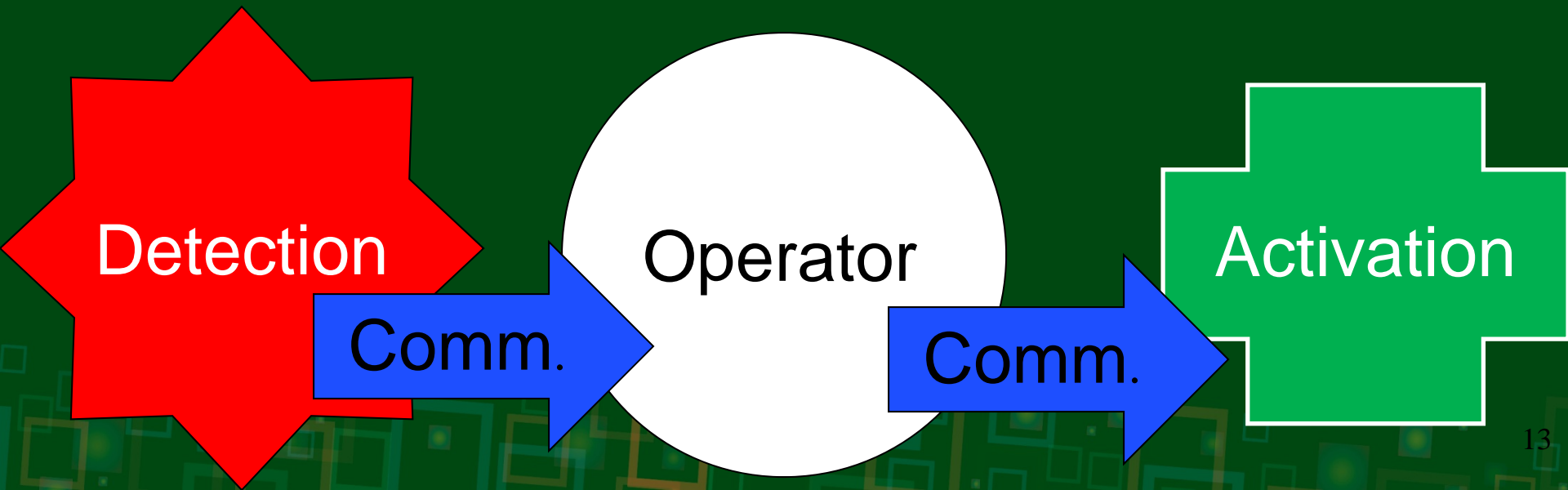 - First responders
  - Coordination

Overview

- **Introduction**
- Steps to activation
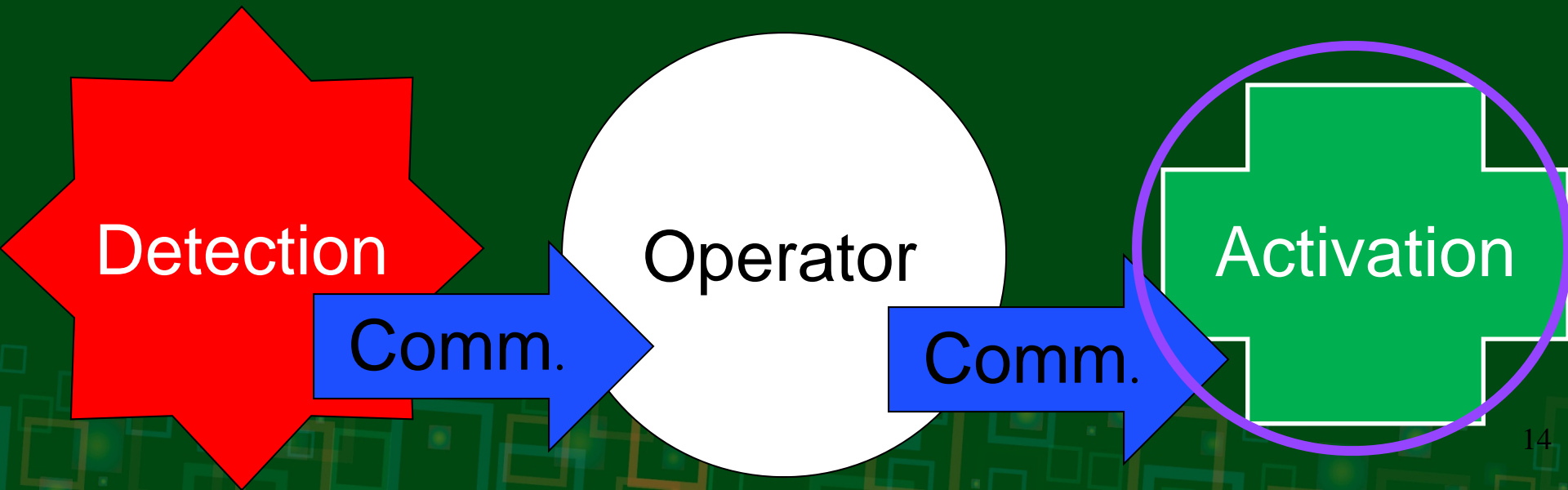
- Activation Issues
- Process, procedure, and training

Activation Issues

- False alarms
- Information collection
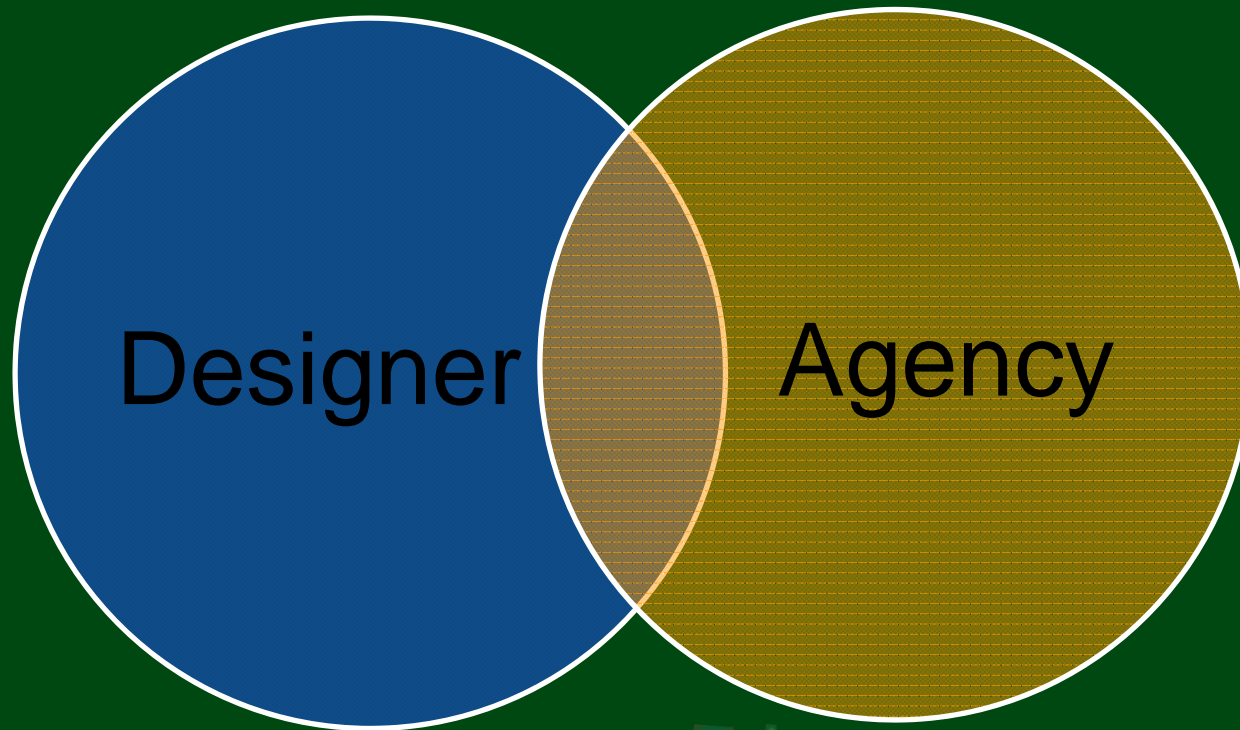- No activation
- Wrong activation

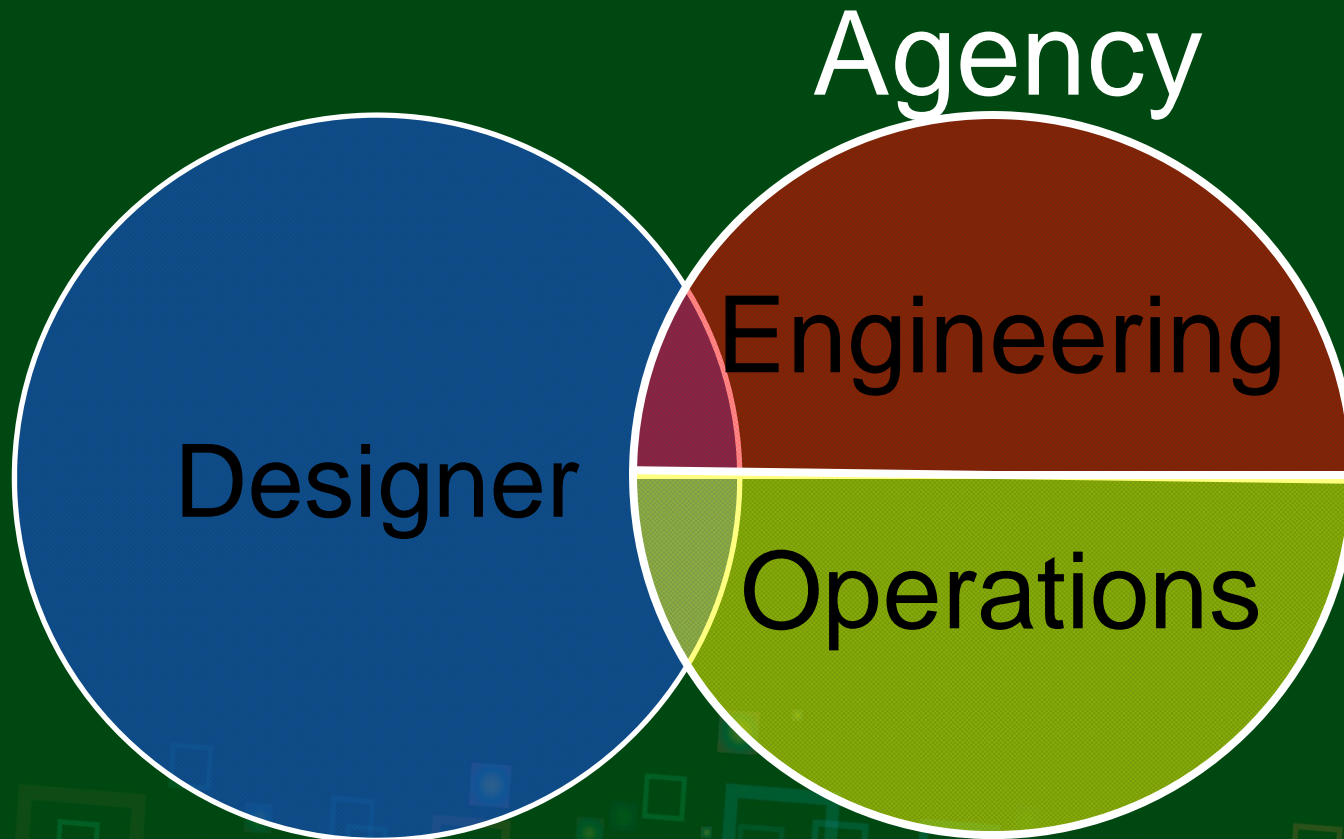**Detection** → Comm. → **Operator** → Comm. → **Activation**

Activation Issues

- NFPA 130
  - 180 Seconds applies to activation
  - Time of tenability

Detection → Comm. → Operator → Comm. → Activation
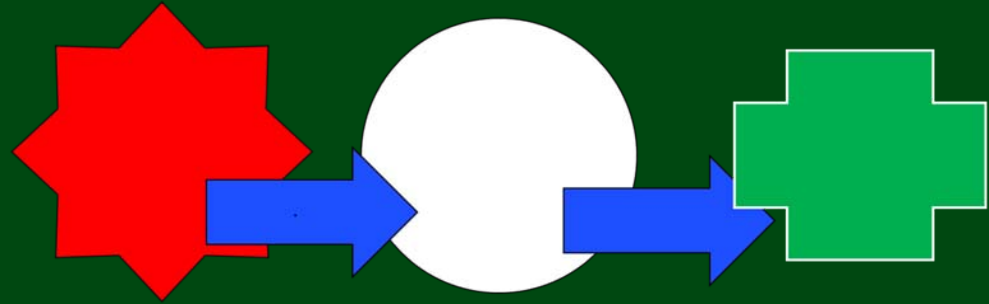
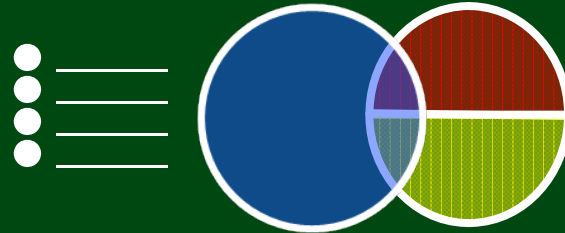# Activation Issues

Activation Issues

Overview
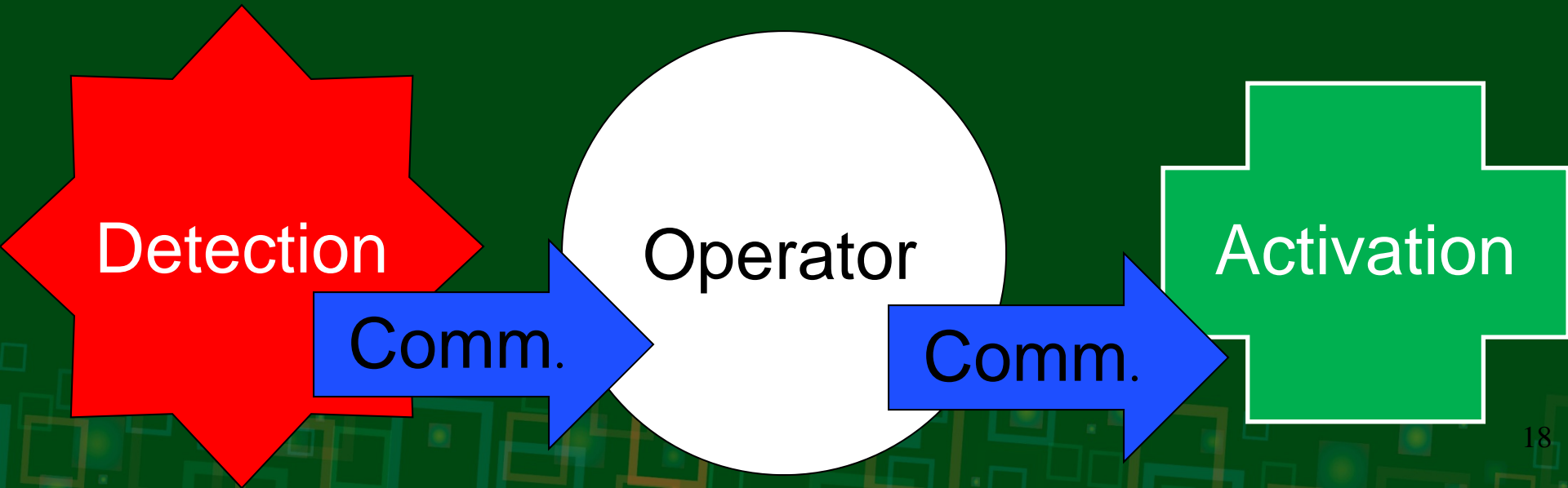
- Introduction
- Steps to activation

- Activation Issues

- Process, procedure, and training

Process, procedures, and training

- Process
  - Detection
  - Interpreters
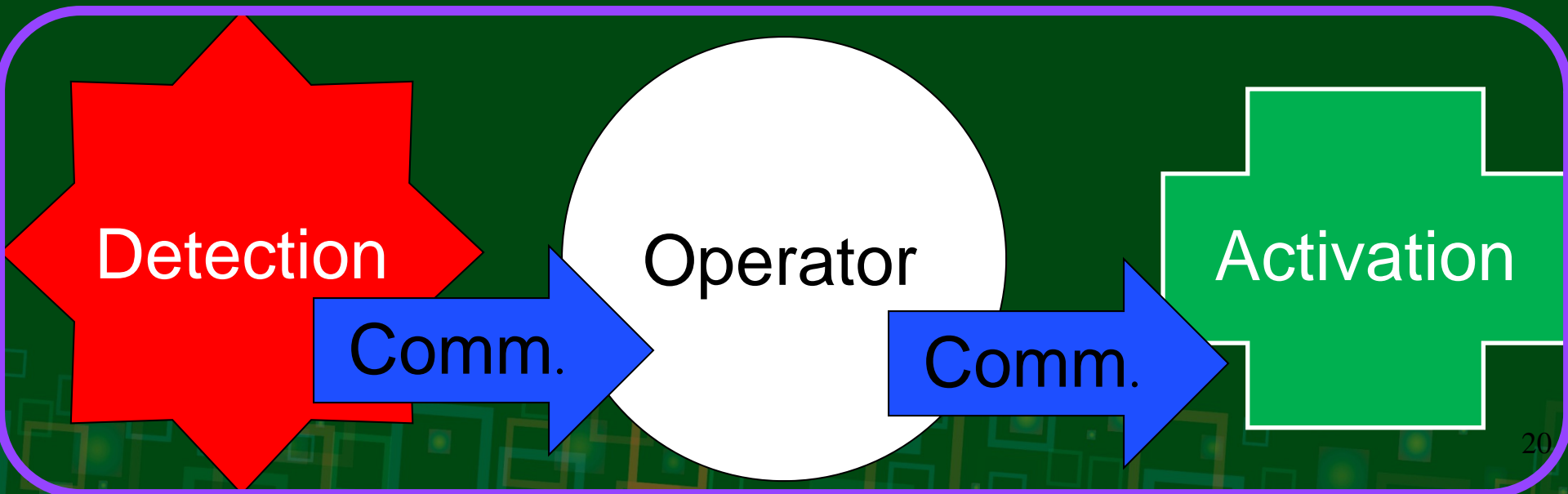 - Communications
  - Operators
  - Activators

Detection → Comm. → Operator → Comm. → Activation

Process, procedures, and training

- Alternative Process?
  - Automatic activation
  - Example: Station heat detectors

Detection → Operator Comm. → Activation

Process, procedures, and training

- Procedures
  - Detection - Parameters
  - Interpreters - Transmission
  - Communications
  - Operators - Decisions
  - Activators – Do it

Detection → Comm. → Operator → Comm. → Activation

Process, procedures, and training
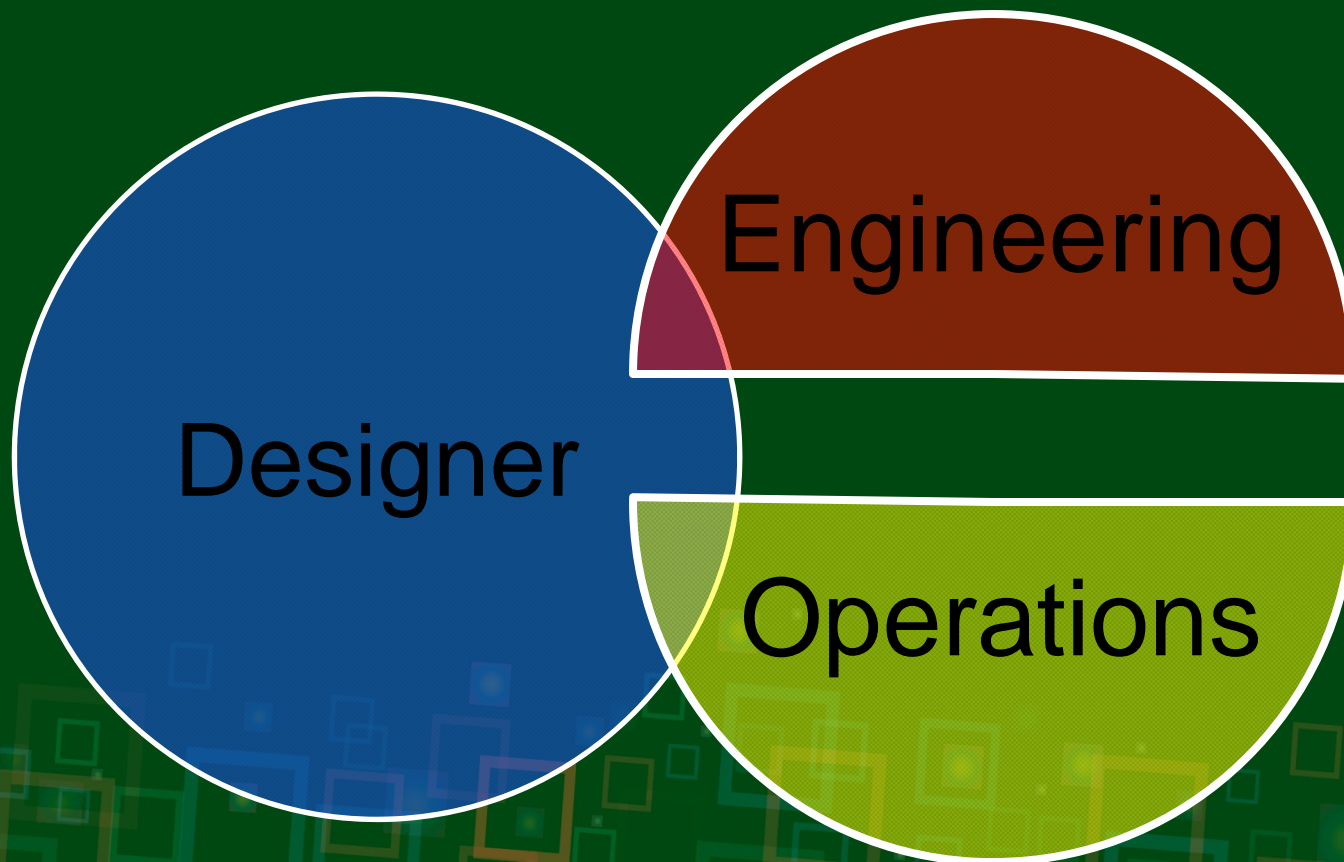
- Procedures
  - Keep it simple stupid (KISS)
  - Stations
    - Reflex reaction
  - Tunnel
    - Activation is important
    - Activate to save some
  - Default is to activate
  - No activation by exception only

Process, procedures, and training

- Training
  - NFPA 130
    - Drills and review courses (9.2.5)
    - Two drills per year with first responders (9.10.2)
  - Table top exercises
    - Real time
    - Practice communication pathways

Communication, procedures, and training

- Training
  - Testing procedures

Toronto Transit Commission
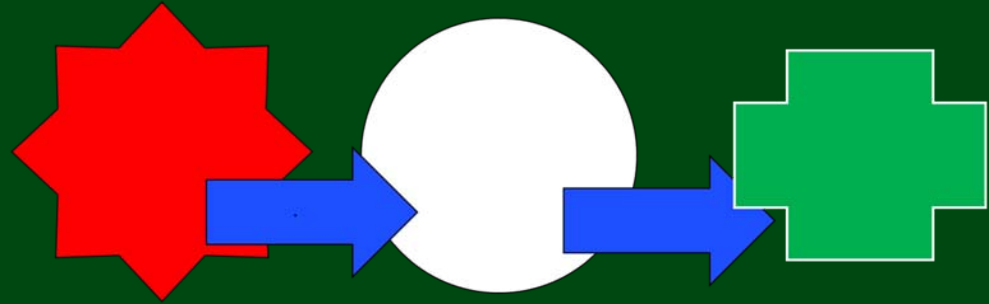# "FLASH EXIT" SIMULATION

Process, procedures, and training

- 15 Lessons learned
  - Control-Alt-Delete
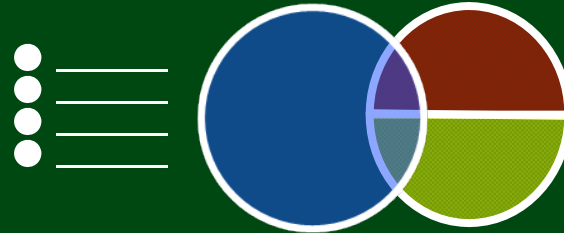 - "Google Maps" for all control staff

Conclusion

- Introduction
- Steps to activation

- Activation Issues

- Process, procedure, and training