Disaster and Emergency Management

An Oracle City Platform Solution

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September 25, 2014

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Vision of Disaster Risk Reduction Management

"Safer, adaptive and disaster resilient Filipino communities towards sustainable development."

Disaster Management Phases

Using a Comprehensive DRR Approach

- Mitigation
- Preparedness
- Response
- Recovery

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Mitigation

- The lessening or limitation of the adverse impacts of hazards and related disasters.

- Includes activities that eliminate or reduce:
  - the chance of a disaster occurring
  - the negative effects of a disaster that does occur

Preparedness

- The knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions.

- Includes planning how to respond when an emergency or disaster occurs, and working to ensure resources are available to respond effectively.

Response

- The provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.

- Provide emergency assistance.

- Try to reduce likelihood of future damage.

Response

Five Stages of Response

1. Detection
2. Alerting & Notification/Warning
3. Protecting the people and property
4. Providing for the public welfare
5. Restoration

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Recovery
The restoration, and improvement where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors.

- Short-term recovery restores vital life-support systems.
- Long-term recovery may go on for months, even years.
- Recovery continues till all systems are normal or better state.
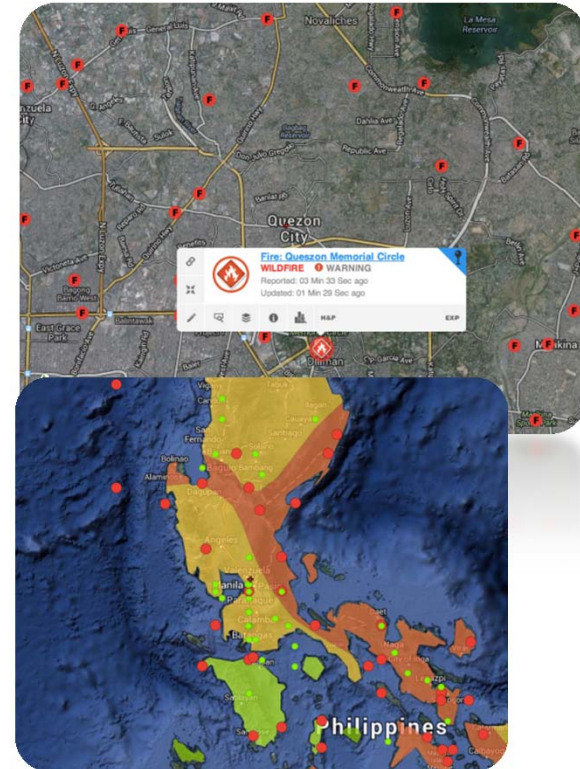- Recovery is an opportunity to reduce vulnerability to future disasters.

Emergency Management Requirements
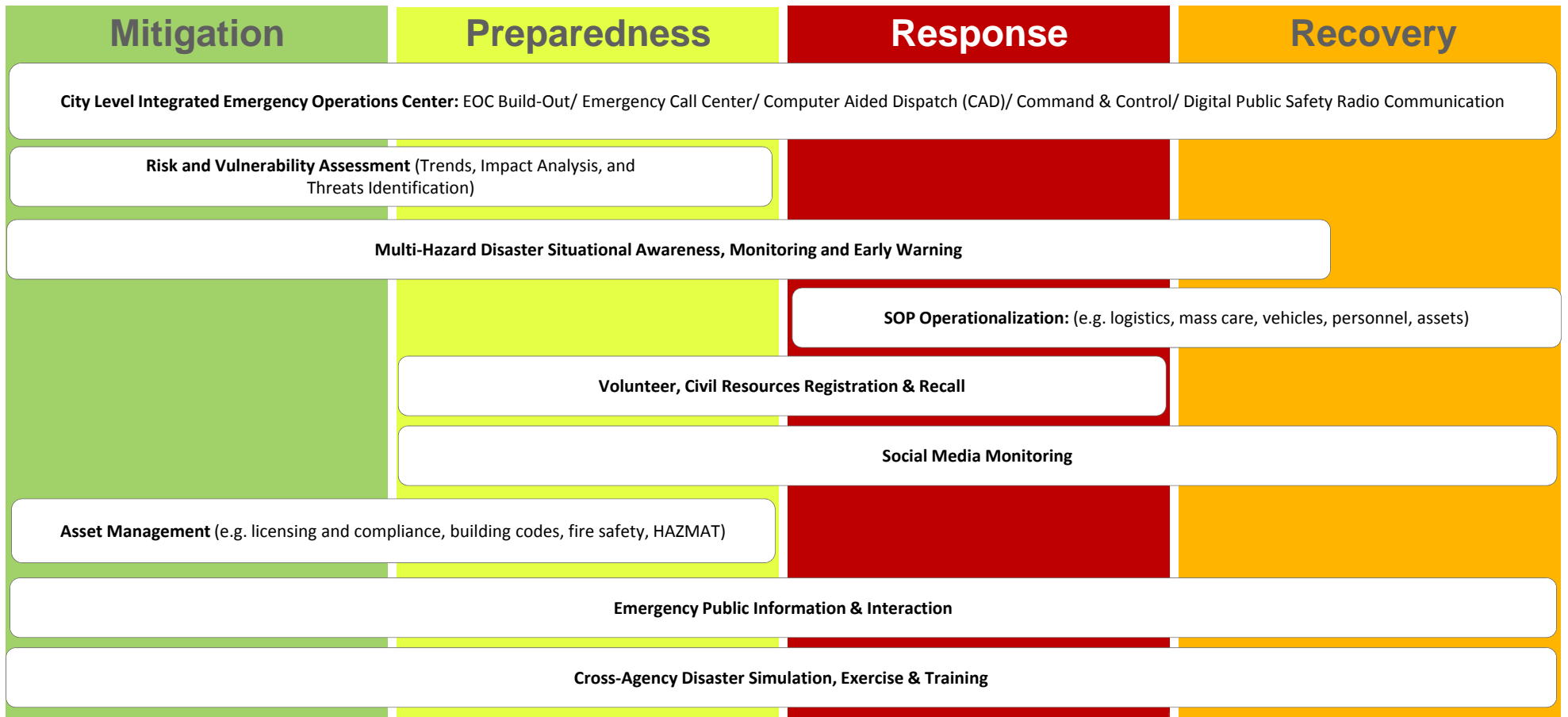
- **Routine Emergencies**
  - Daily situations faced by people and local disaster service personnel (e.g. a structure fire, traffic accident).

- **Non-Routine Emergencies**
  - Large-scale events (e.g. typhoons, floods)
  - Responsibility for responding to disasters begins at the local level, but higher levels of response are activated when resources and capabilities are exhausted.

Disaster and Emergency Management Lifecycle <u>Requirements</u>

Mitigation	Preparedness	Response	Recovery

City Level Integrated Emergency Operations Center: EOC Build-Out/ Emergency Call Center/ Computer Aided Dispatch (CAD)/ Command & Control/ Digital Public Safety Radio Communication

Risk and Vulnerability Assessment (Trends, Impact Analysis, and Threats Identification)

Multi-Hazard Disaster Situational Awareness, Monitoring and Early Warning

SOP Operationalization: (e.g. logistics, mass care, vehicles, personnel, assets)

Volunteer, Civil Resources Registration & Recall

Social Media Monitoring

Asset Management (e.g. licensing and compliance, building codes, fire safety, HAZMAT)

Emergency Public Information & Interaction

Cross-Agency Disaster Simulation, Exercise & Training

Disaster and Emergency Management Lifecycle Solutions

Mitigation	Preparedness	Response	Recovery

City Level Integrated Emergency Operations Center (EOC): **Oracle City Platform and Indra iSafety**

Risk and Vulnerability Assessment: **Oracle City Platform & PDC DisasterAWARE**

Multi-hazard Disaster Situational Awareness, Monitoring and Early Warning: **PDC DisasterAWARE**

SOP Operationalization: **Indra iSafety**

Volunteer, Civil Resources Registration & Recall: **Oracle City Platform & Indra iSafety**

Social Media Monitoring: **Oracle City Platform, PDC DisasterAWARE and Indra iSafety**

Asset Management: **Oracle City Platform**

Emergency Public Information & Interaction: **PDC DisasterAWARE and Indra iSafety**

Cross-Agency Disaster Simulation, Exercise & Training: **PDC DisasterAWARE and Indra iSafety**

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Key Solution Components

Systems, Equipment and Services

- **System Components**
  - City Platform by Oracle
  - DisasterAWARE by PDC
  - iSafety by Indra

- **EOC Build-Out**
  - Command & Control Centre
  - AV & Communication Systems

- **DM/EM Knowledge and Skills**
 - Training
  - Simulation/Exercise

The Oracle City Platform

Creating a Citywide Nervous System

- Database and Servers
  - Oracle Database 12c
  - Exadata & Exalogic
- Middleware & Integration Tools
  - Oracle Service-Oriented Architecture
  - Oracle Business Process Management
  - Oracle WebLogic
- Applications and Analytics
  - Oracle E-Business Suite
  - CRM/Case Management
  - Exalytics

The Oracle City Platform @ Work
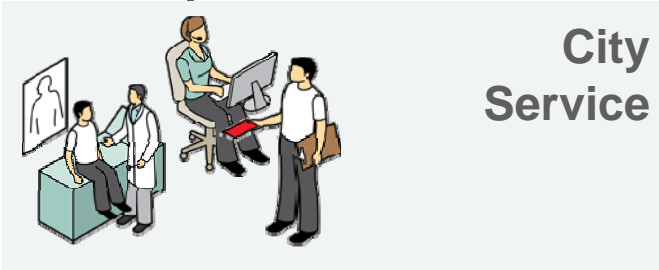
City Service

Swedish municipalities of **Uppsala and Knivsta** serving 200,000 residents with **Siebel Case Management** to transform human care delivery. Allows Citizens to change service provider within 14 days. Improved service levels and quality of care.

New York's **Metropolitan Transportation Authority (MTA)** delivers fast, accurate answers to millions with **Oracle Knowledge Management**. Email response times reduced by 80-95%. Broad range of accurate answers available to customers 24 hours a day.

Sistema de Aguas de la Ciudad de México offers 2 million customers drinking water and wastewater treatment. **Siebel CRM** manages payment information**. Oracle Business Intelligence** influences water supply through variable water rates. Accelerated customer service times from 2 hours to 8 minutes.

Makkah Municipality runs its e-Platform on **Siebel eService** to implement current and future needs of the municipality. This supports the fast growth of one of the most visited cities in the world. Collaborates with other agencies using **Oracle Enterprise Content Management** and **Oracle WebLogic Suite**.

Línea Madrid is **Madrid City Council's Siebel CRM** based multichannel support service providing proactive services to over 3 million residents. Integrated with the back office, it operates via 22 offices, the munimadrid.es web site and the 010 phone service. Increased citizen satisfaction while lowering cost levels.

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The Oracle City Platform @ Work
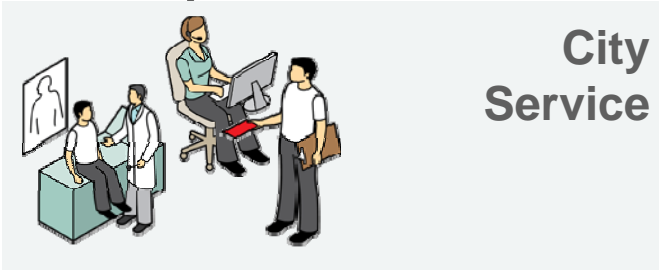
City Service

...and to dedicate time to cases that need professional attention...

Provide Citizens with accurate and relevant knowledge...

...or to keep Citizens away from costly back office interaction...

...maximizing Citizen self service to scale for growth...

...leading to higher Citizen satisfaction at lower costs.

DisasterAWARE by PDC

All-hazard Warning, Analysis and Risk Evaluation

Integrated situational awareness, disaster monitoring, decision support, and information exchange capabilities for decision makers

- Multi-hazard Monitoring

- Disaster Early Warning

- Automated / Integrated Modeling

- Hazard Maps & Historical Hazard Data

- Intra-Agency Info Sharing
  - User Added Situation Reports
  - Damage Products, …

- Mobile Access (Disaster Alert)
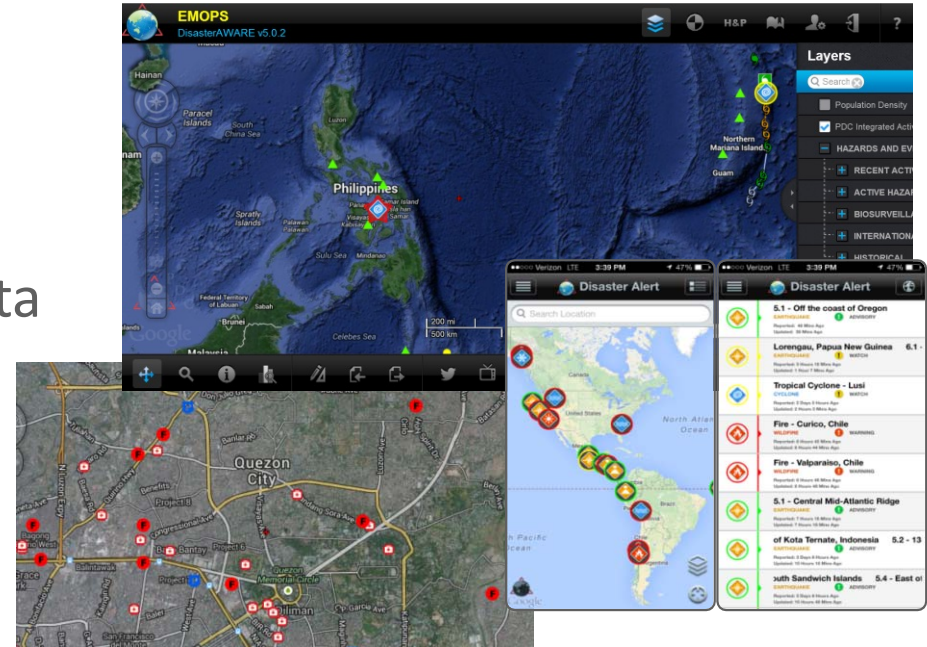
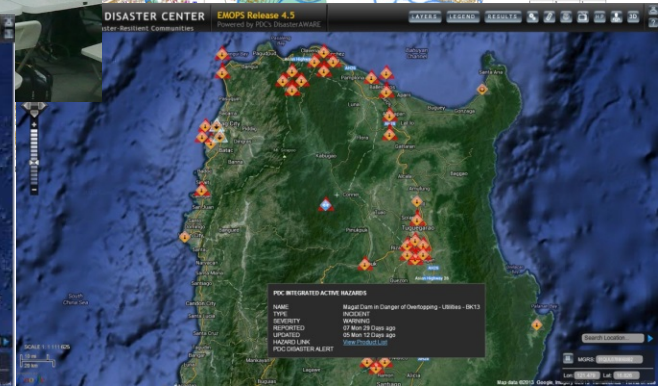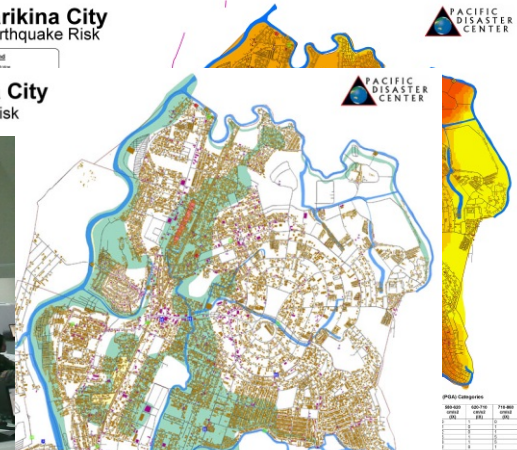# DisasterAWARE in Action: Earthquakes

PDC in Action: The Philippines

Risk Assessment, DM Training & Exercise, Disaster Support

- Marikina City (2004-5)
- MMDA (2006-7)
- Balikatan DMEX (2011-14)
- Yolanda (2013-14)

iSafety by Indra

Integrated Incident and Emergency Management System
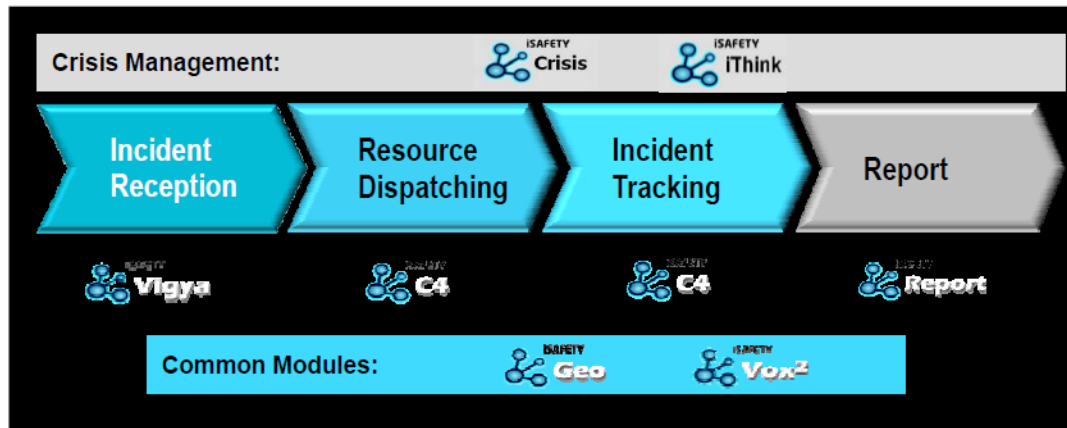

- Call Receiving & Locating

- Incident Dispatch and Tracking

- Resource Management & Dispatch

- Radio/Voice communications integration

- Vehicle Location (AVL)

- Geographic Information Systems (GIS)

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iSafety by Indra

Integrated Incident and Emergency Management System

iSafety Modules

Crisis Management: iSAFETY Crisis · iSAFETY iThink

Incident Reception → Resource Dispatching → Incident Tracking → Report

Vigya · C4 · C4 · Report

Common Modules: iSAFETY Geo · iSAFETY Vox²

Vigya: Incident Reception

C4: Dispatch & Tracking

Report: Reporting

Vox²: Communications

Geo: GIS Viewer

Crisis: Emergency Management

Incident Tracking

- Rule-based dispatching proposal
- Many-to-many dispatching capabilities
- Planned events dispatching capabilities
- Task priority modification capabilities
- Automatic AVL integration
- Radio Systems short message protocols integration

Emergency Dispatch Management

- Emergency organizational structure access.
- Operative protocol based guide for every emergency.
- Emergency actual status indication.
- Specific objectives setup at each crisis stage.
- Operative mission dispatch & tracking.
- Continuous feedback from dispatching utits.

iSafety in Action: Madrid EOC

CISEM PROJECT.
Madrid Security and Emergency Integrated Center

VIDEO SURVEILLANCE

Traffic and Security cameras integration and management.

APPLICATIONS

Integrated Emergency Management System. Workforce Planner. Consultancy Services. GIS system. AVL/GPS. Procedures and policies. . Business Intelligence.

INFORMATION SYSTEMS

Hardware and software. Databases. Real time replication to Backup center. Video management system. Videowall. Workspace. Logical security. LAN/WAN.

INFRASTRUCTURES

Main and backup centers. Operators room. Call center. Datacenter. Dispatch center. Crisis room. Mobile Command and Control Centers (4 vehicles)

COMMUNICATIONS

Voice/Radio Integration. TETRA, Telephony y Video Conference. GPRS/UMTS. Satellite. WiMax.
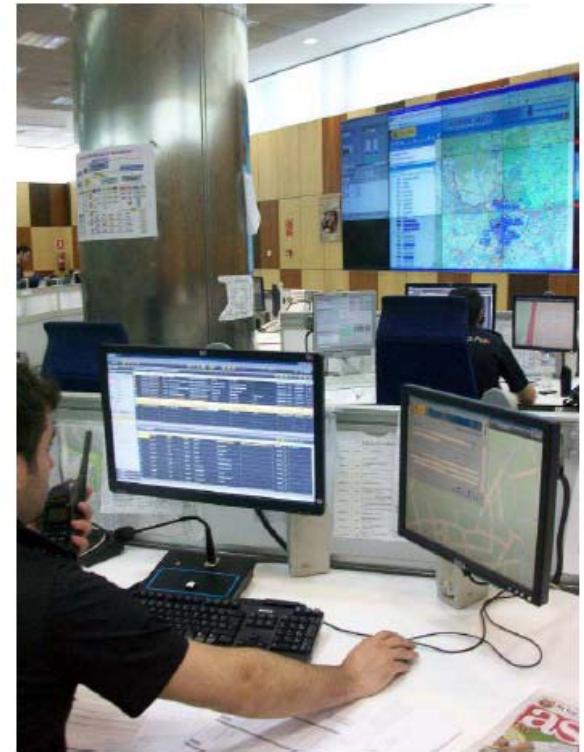
Indra Systems in Action: Philippines

## Building Safer Cities Through Unified Response

- MMDA's Hermes, the New Command, Control and Communications Center - monitors traffic with the help of 25 video surveillance cameras that have been installed at the main points in the city piloting 85 intersections in Metro Manila

Emergency Operations Center (EOC) Build-Out

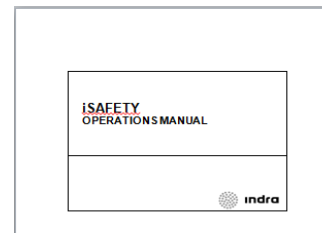## State-of-the-Art DRRM Command & Operations Centre

- Command and Control Centre (e.g. Design, Crisis Room, Call Centre, Conference Rooms, etc.)

- Video Wall and Audiovisual Equipment

- Data Center and Related Equipment (incl. Servers, Computers and Storage, etc.)

- Voice and Data Communication Systems

- Cabling and Network Equipment

- Information Security Systems

- CCTVs and Sensors
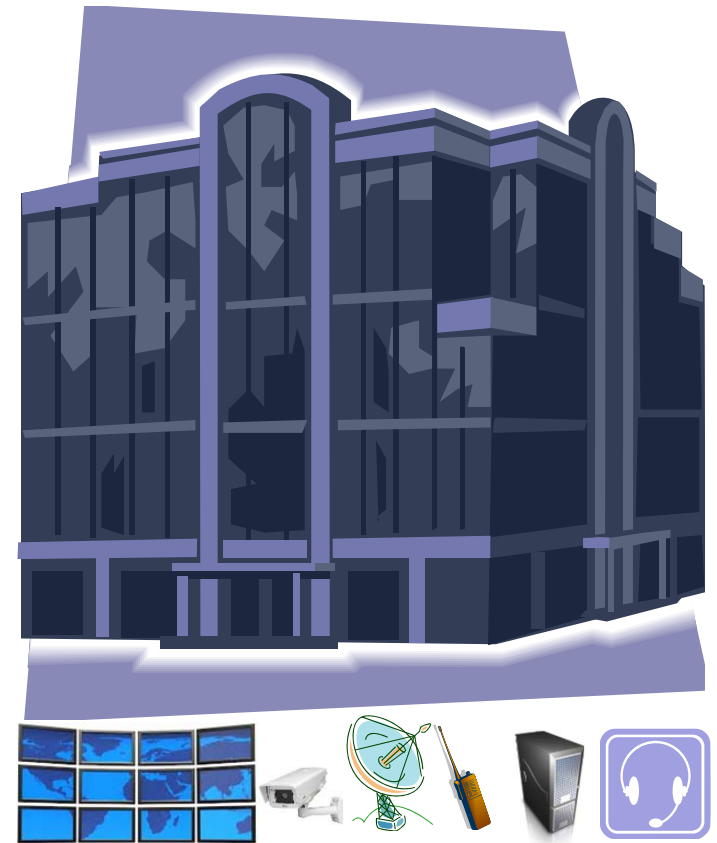
DM/EM Knowledge and Skills Development

Capacity Building for DM/EM Staff and Partners

- Comprehensive training on system components
  - User Training
  - System Administrator Training

- Train-the-Trainer
  - Sustain the training program
  - Engage partner agencies

- Simulation and Exercises
  - Scenario-based exercises to build and reinforce skills

iSAFETY OPERATIONS MANUAL

indra

DisasterAWARE
Foundational Training Guide

University of Hawaii Pacific Disaster Center

PACIFIC DISASTER CENTER

PDC's mission is to foster disaster resilience through the application of science, information, technology, and exchange.

Video Demonstration

- DisasterAWARE

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